Raw Sequence Listing Error Summary

	ERROR DETECTED	SUGGESTED CORRECTION SERIAL NUMBER: 19/1/2/4/9
۸۲۲۱	J. NEW DIII EC CACEC. I	PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE
1	Wrapped Nucleics	The number/text at the end of each line "wrapped" down to the next line.
		This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3, as this will prevent "wrapping".
2	_ Wrapped Aminos	The amino acid number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3, as this will prevent "wrapping".
3	Incorrect Line Length	The rules require that a line not exceed 72 characters in length. This includes spaces.
4	Misaligned Amino Acid Numbering	The numbering under each 5th amino acid is misaligned. This may be caused by the use of tabs between the numbering. It is recommended to delete any tabs and use spacing between the numbers.
5	Non-ASCII	This file was not saved in ASCII (DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text so that it can be processed.
6	Variable Length	Sequence(s) contain n's or Xaa's which represented more than one residue. As per the rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the (ix) feature section that some may be missing.
7	Patentin ver. 2.0 "bug"	A "bug" in Patentln version 2.0 has caused the <220>-<223> section to be missing from amino acid sequence(s) Normally, Patentln would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies primarily to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
8	Skipped Sequences (OLD RULES)	Sequence(s) missing. If intentional, please use the following format for each skipped sequence: (2) INFORMATION FOR SEQ ID NO:X: (i) SEQUENCE CHARACTERISTICS:(Do not insert any headings under "SEQUENCE CHARACTERISTICS") (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: This sequence is intentionally skipped
		Please also adjust the "(iii) NUMBER OF SEQUENCES:" response to include the skipped sequence(s).
9	Skipped Sequences (NEW RULES)	Sequence(s) missing. If intentional, please use the following format for each skipped sequence. <210> sequence id number <400> sequence id number 000
10	Use of n's or Xaa's (NEW RULES)	Use of n's and/or Xaa's have been detected in the Sequence Listing. Use of <220> to <223> is MANDATORY if n's or Xaa's are present. In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
11	Use of <213>Organism (NEW RULES)	Sequence(s) are missing this mandatory field or its response.
12	Use of <220>Feature (NEW RULES)	Sequence(s) are missing the <220>Feature and associated headings. Use of <220> to <223> is MANDATORY if <213>ORGANISM is "Artificial" or "Unknown" Please explain source of genetic material in <220> to <223> section. (See "Federal Register," 6/01/98, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of new Rules)
13	Patentin ver. 2.0 "bug"	Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted Tile; Tesalting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other means to copy file to floppy disk.

OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/721,479

DATE: 12/07/2000 TIME: 07:23:33

Input Set : A:\seqlist.txt

Output Set: N:\CRF3\12072000\1721479.raw

Does Not Comply Corrected Diskette Needed

ERRORED SEQUENCES

621 <210> SEQ TO NO: 2 622 <211> LENGTH: 1771 623 <212> TYPE: PRI 624 <213> ORGANISM: Hepatitis C virus 626 <220> FEATURE: 627 <223> OTHER INFORMATION: Description of Artificial Sequence: Hepatitis C pns345 629 <400> SEQUENCE: 2 630 Met Ala Ala Tyr Ala Ala Gln Gly Tyr Lys Val Leu Val Leu Asn Pro 1.0 $\frac{633}{634}$ Ser Val Ala Ala Thr Leu Gly Phe Gly Ala Tyr Met Ser Lys Ala His $\frac{634}{20}$ 20 25 30 636 Gly Ile Asp Pro Asn Ile Arg Thr Gly Val Arg Thr Ile Thr Thr Gly 637 35 40 45 639 Ser Pro 11e Thr Tyr Ser Thr Tyr Gly Lys Phe Leu Ala Asp Gly Gly 640 50 55 60 $642~\mathrm{Cys}$ Ser Gly Gly Ala Tyr Asp Ile Ile Ile Cys Asp Glu Cys His Ser 643-65 70 75 80 645 thr Asp Ala Thr Ser fle Leu Gly Tle Gly Thr Val Leu Asp Gln Ala 646 85 90 95 648 Glu Thr Ala Gly Ala Arg Leu Val Val Leu Ala Thr Ala Thr Pro Pro 649 100 105 110 651 Gly Ser Val Thr Val Pro His Pro Asn Ite Glu Glu Val Ala Leu Ser 652 - 115 120 125 654 Thr Thr Gly Glu lle Pro Phe Tyr Gly Lys Aia lle Pro Leu Glu Val 655 130 135 140 657 Ile Lys Gly Gly Arg His Leu Ile Phe Cys His Ser Lys Lys Lys Cys 658 145 150 155 160 660 Asp Glu Leu Ala Ala Eys Leu Val Ala Leu Gly Ile Asm Ala Val Ala 661 165 170 175 661. 165 663 Tyr Tyr Arg Gly Len Asp Val Ser Val Ile Pro Thr Ser Gly Asp Val 664 180 185 190 666 Val Val Val Ala Thr Asp Ala Leu Met Thr Gly Tyr Thr Gly Asp Phe 667 195

RAW SEQUENCE LISTING DATE: 12/07/2000 PATENT APPLICATION: US/09/721,479 TIME: 07:23:33

				1					•							
669	Asp	ser	Val	Tle	Asp	Cys	Asn	Thr	Сув	Val.	rhr	Gln	Thr	Val	Asp	ьрь
670		230					215					220				
672	ser	Leu	Asp	Pro	Thr	Phe	Thr	Tle	G.l u	Thr	Пe	Thr	Leu	$_{\rm PLO}$	Gln	Asp
673	225					230					235					240
675	Ala	Val	Ser	Arg	Thr	Gln	Arg	Arg	Gly	Arg	Thr	Gly	Arg	GTY	Lys	Pro
676					245					250				0.1	255	rst
678	Gly	11e	Туг		Phe	Val	Ala	5 co	Gly	GLu	Arg	Pro	Ser	GLY	Met.	Pue
679				260				_	265			01	C. 113	270	Staces	The case
	Asp	Ser		Val	Leu	Cys	G.Lu		Tyr	Asp	Ald	өтү	285	ALG	Trp	ıyı.
682			275	_			a) 1	280	00.3	A ma	Ean	Aaro		Twee	Mot	Asm
	Glu		Thr	Pro	Ala	GLU	295	3 HT.	Val.	ALG	neu	300	MILU	1 1 1	Met	21.713
685	mt	290	G1	C	13 800	May 1		(1) n	Acn	uie	1.6311		Phe	Tro	Glu	Gly
		Pro	GLY	Leu	321.0	310	Cys	73 T II	noy	11.1.0	315	GIG	1 11.	E		320
688	305	pho	The	Clv	1 50		нія	110	Aso	Ala		Phe	Leu	ser	Cln	Thr
691	V CI L	r. Hes	1111	ату	325	101	HILD	.1 .1.0	, 1.7]:	330					335	
693	T.VG	Gla	Ser	Glv		Asn	Leu	Pro	Tyr	Leu	Val	Ala	Tyr	Gln	Ala	Thr
694				340					345					350		
696	Va i	Cys	Ala	Arq	Ala	G1.n	Ala	Pro	Pro	Pro	Ser	Trp	Asp	Gin	Met.	Trp
697			355					360					365			
699	Lys	Cys	Leu	ile	Arg	Leu	Lys	Pro	Thr	Leu	His	Gly	Pro	Thr	Pro	Leu
700		370					375					380				
702	Leu	Tyr	Arg	Leu	Gly	Ala	Val	Gln	Asn	Glu	I l.e	I'h r	Leu	Thr	His	Pro
703	385					390					395		_	0.7		400
705	Val	Thr	Lys	Туг		Met	Thr	Cys	Met	ser	Ala	Asp	Leu	6111	Val	Val.
706					405				~ 7	4.10		3 I -	3.1 6	T (21)	4.15	Ala
	Thr	ser	Thr		Val	Leu	Vai	GTY	GLY	val.	Ten	Ald	A.I. d	430	Ala	ALL CI
709				420	od .	0.3	0	37 m 1	425	110	u.i	Clv	Arria		Val	Lou
	Tyr	Cys		ser	Thr	GLY	Cys	440	Vall	1.16	v a.t	(a T Ä	445	v Ca 1.	Val	LCU
712	Can	210	435	Deo	a La	rla	TTO		Acn	λησ	Glu	va1		Tyr	Arg	Glu
715	ser	450	LYS	PTO	WIG	L LU:	455	1.0	мэр	2132 9	0.4.04	460	2.74.44		,	
71.7	Dha	Agn	G1n	Mest	GIn	Ġln		Ser	Gln	His	Leu	Pro	Tyr	fle	G Lu	Gln
71.8		MDF	CJI	1100	.,,,,,	470			-		475					480
720	Glv	Met.	Met.	Leu	Ala	GLu	Gln	Phe	Lys	Gla	Lys	Ala	Leu	Gly	Leu	Leu
721					485					490					495	
723	Gln	Thr	Ala	ser	Arg	Gln	Ala	Glu	Val	Lle	Ala	Pro	Ala	Val	Gln	Thr
724				500					505					510		
726	Asn	Trp	Gln	Lys	Leu	Glu	Thr	Phe	Trp	Ala	Lys	His	Meet	Trp	Asn	Phe
727			515					520					525		- 2	. /
729	Tle	ser	Gly	Ele	G 1. n	Tyr			Gly	Leu	Ser	Thr	Leu	Pro	Gly	Asn
730		530					535					540		on to the		13 20.0
732	Pro	Ala	Tle	Ala	Ser			Ala	Phe	Thr			va L	THE	ser	560
7.33	545				~ 1	550			ryl	A	555		01.	C 1 v	Tren	
735		Thr	Thr	ser			Leu	r.eu	PUG	570		Leu	GTÅ	олу	Trp 575	A (3.1)
736	. 1	. 1 -	a 1 -	f	565	A 1 -	Dro	(*15	λ I ¬			Δ1:2	Pho	Val		Ala
738		ALa	GLI			Ald	PIO	стй	585		1111	ETG	1 11/3	590	1	. ,
739	C1.	Torre	Λ 3 ~	580	. A1 a	Δ1 o	110	G1=			Glv	Len	G1v			Leu
743	GTÀ	Leu	A.I.d	ату	A.I. a	MAG	1.16	GIT	JC.1	YUL	C. L. y	3,3% - 14	O = 1			

RAW SEQUENCE LISTING DATE: 12/07/2000 PATENT APPLICATION: US/09/721,479 TIME: 07:23:33

Input Set : A:\seqlist.txt Output Set: N:\CRF3\12072000\I721479.raw

595 742 744 The Asp The Leu Ala Gly Tyr Gly Ala Gly Val Ala Gly Ala Leu Val 745 610 615 620 747 Ala Phe Lys 11e Met Ser Gly Glu Val Pro Ser Thr Glu Asp Leu Val 748 625 630 630 635 640 750 Asn Leu Leu Pro Ala He Leu Ser Pro Cly Ala Leu Val Val Cly Val 751 645 655 753 Val Cys Ala Ala Ile Leu Arg Arg His Val Gly Pro Gly Glu Gly Ala 754 660 665 670 756 Val Gln Trp Met Asn Arg Leu 11e Ala Phe Ala Ser Arg Gly Asn His 757 675 680 685 759 Val Ser Pro Thr His Tyr Val Pro Glu Ser Asp Ala Ala Ala Arg Val 760 690 695 700 762 Thr Ala Lie Leu Scr Ser Leu Thr Vai Thr Gln Leu Leu Arg Arg Leu 763 705 710 715 720 765 His Gln Trp Ile Ser Ser Glu Cys Thr Thr Pro Cys Ser Gly Ser Trp 766 725 730 735 768 Leu Arg Asp Ile Trp Asp Trp Ile Cys Glu Val Leu Ser Asp Phe Lys 769 740 745 750 771 Thr Trp Leu Lys Ala Lys Leu Met Pro Gln Leu Pro Gly Ile Pro Phe 772 755 760 765 774 Val Ser Cys Gin Arg Gly Tyr Lys Gly Val Trp Arg Gly Asp Gly Tle 775 770 780 777 Met His Thr Arg Cys His Cys Gly Ala Glu Ile Thr Gly His Val Lys 778 785 790 795 800 780 Asn Gly Thr Met Arg Ile Val Gly Pro Arg Thr Cys Arg Asn Met Trp 781 805 810 815 783 Ser Gly Thr Phe Pro 1le Asn Ala Tyr Thr Thr Gly Pro Cys Thr Pro 784 820 825 830 786 Leu Pro Ala Pro Asn Tyr Thr Phe Ala Leu Trp Arg Val Ser Ala Glu 787 835 840 845 789 Glu Tyr Val Glu Ile Arg Gln Val Gly Asp Phe His Tyr Val Thr Gly 790 850 855 860 792 Met Thr Thr Asp Asn Leu Lys Cys Pro Cys Gln Val Pro Ser Pro Clu 793 865 870 875 880 795 Phe Phe Thr Glu Leu Asp Gly Val. Arg Leu His Arg Phe Ala Pro Pro 796 885 890 895 798 Cys Lys Pro Leu Leu Arg Glu Glu Val Ser Phe Arg Val Gly Leu His 799 900 905 910 801 Glu Tyr Pro Val Gly Ser Gln Leu Pro Cys Glu Pro Glu Pro Asp Val 802 915 926 926 804 Ala Val Leu Thr Ser Met Leu Thr Asp Pro Ser His Ile Thr Ala Clu 805 930 935 940 807 Ala Ala Gly Arg Arg Leu Ala Arg Gly Ser Pro Pro Ser Val Ala Ser 808 945 950 955 960 810 Ser Ser Ala Ser Gln Leu Ser Ala Pro Ser Leu bys Ala Thr Cys Thr 811 965 970 975 813 Ala Asn His Asp Ser Pro Asp Ala Glu Leu Ile Glu Ala Asn Leu Leu 814 980 985

RAW SEQUENCE LISTING PATENT APPLICATION: US/09/721,479

DATE: 32/07/2000

TIME: 07:23:33

Input Set : A:\seqlist.txt

Output Set: N:\CRF3\12072000\I721479.raw

816 Tcp Arg Gln Glu Met Gly Gly Asn Ile Thr Arg Val Glu Ser Glu Asn 1000 81.7 995 819 Lys Val Val ile Leu Asp Ser Phe Asp Pro Leu Val Ala Glu Glu Asp 820 1010 1015 1020 822 Glu Arg Glu Ile Ser Val Pro Ala Glu Ile Leu Arg Lys Ser Arg Arg E--> 823 025 /025 1030 1035 1040 825 Phe Ala Glm Ala Leu Pro Val Trp Ala Arg Pro Asp Tyr Asm Pro Pro 826 1045 1050 1055 828 Leu Val Glu fhr Trp Lys Lys Pro Asp Tyr Glu Pro Pro Val Val His 829 1060 1065 1070 831 Gly Cys Pro Leu Pro Pro Pro Lys Ser Pro Pro Val Pro Pro Pro Arg 832 1075 1080 1085 834 Lys Lys Arg Thr Val Val Leu Thr Glu Ser Thr Leu Ser Thr Ala Leu 835 1090 1095 1100837 Ala Glu Leu Ala Thr Arg Ser Phe Gly Ser Ser Ser Thr Ser Gly Ile E--> 838(105) 1105 1110 1115 1120 840 Thr Gly Asp Asn Thr Thr Thr Ser Ser Glu Pro Ala Pro Ser Gly Cys 841 1125 1130 1135 843 Pro Pro Asp Ser Asp Ala Glu Ser Tyr Ser Ser Met Pro Pro Leu Glu 844 1140 1145 1150 846 Gly Glu Pro Gly Asp Pro Asp Leu Ser Asp Gly Ser Trp Ser Thr Val. 847 1155 1160 1165 849 Ser Ser Glu Ala Asn Ala Glu Asp Val Val Cys Cys Ser Met Ser Tyr 850 1170 1175 1180 852 Ser Trp Thr Gly Ala Len Val Thr Pro Cys Ala Ala Glu Glu Gin Lys E--> 853 185 1195 1190 1195 1200 855 Leu Pro Lie Asn Ala Leu Ser Asn Ser Leu Leu Arg His His Asn Leu 856 1205 1210 1215 858 Val Fyr Ser Fhr Thr Ser Arg Ser Ala Cys Gln Arg Gln Lys Lys Val 859 1220 1225 1230 861 Thr Phe Asp Arg Leu Gln Val Leu Asp Ser His Tyr Gln Asp Val Leu 862 1235 1240 1245 864 Lys Glu Val Lys Ala Ala Ala Ser Lys Val Lys Ala Asn Leu Leu Ser 1260 865 1250 1255 873 Thr His Lie Asn Ser Val Trp Lys Asp Leu Leu Glu Asp Asn Val Thr 874 1300 1305 1310 876 Pro Ile Asp Thr Thr fle Met Ala fys Asn Glu Val Phe Cys Val Glu 877 1315 1320 1325 879 Pro Glu Lys Gly Gly Arg Lys Pro Ala Arg Leu Ile Val Phe Pro Asp 1.340 1335 880 1330 882 Leu Glv Val Arg Val Cys Glu Lys Met Ala Leu Tyr Asp Val Val Thr 883 (345) 1345 1350 1355 1360 885 Dys Leu Pro Leu Ala Val Met Gly Ser Ser Tyr Gly Phe Gln Tyr Ser 886 1365 1370 1375 1365 888 Pro Gly Gln Arg Val Glu Phe Leu Val Gln Ala Trp Lys Ser Lys Lys

When numbering

first amend acrid

on a live, begin

number directly

below first letter

of ameno acrid. Po

not extend number

into next ameno acrid.

Leave one space

between last number

and beginning of

next ameno acrid.

2.5. Glu | Space|

Arg.

1025 | Space|

RAW SEQUENCE LISTING PATENT APPLICATION: US/09/721,479 DATE: 12/07/2000 TIME: 07:23:33

Input Set : A:\seqlist.txt
Output Set: N:\CRF3\12072000\1721479.raw

	0.0.0			1200				1	385				1	390		
	889	Thr Pr	er Mari	1380	Tika	Com	There	Acn	Thr	Ara	Cve	Pho			Thr	Val
		THE PE		OLY	1110:	SCT		400	1 111	r.r.y	Oyo	1	405	Ç C.	,	
	892	Thx Gl	1395	4.00	710	A 2015			c be	Ala	110			Cvs	Cvs	Asp
				ASP	A LC		415	G L u	0.11.	LLU	1.1.0	420	0111	0.10	~ / ···	
	895	141 Leu As	O Desc	Clo	41 a			7.1.2	Tla	Lv/e			Thr	G1 n	Arg	Leu
			b Kro	G.CH		430	Val	,~ J. u	I.I.C.	1 2 2	435			0.,		440
E>	898	Tyr Va	1 (1)	73 L 1 2	Dec	1.00	Thr	Acn	Sar			Glu	Agn	CVS		
		Tyr va	I. GLy		445	r.eu	t III.	поп	36 I.	450	13.2.3	C) 1.14		0,70	1455	5
	901	Arg Ar		J -0.4	3 1 S	Car	clu	Val			whe	Ser	Cvs	Glv		
	903	Arg Ar		1460	MIG	3 C. I.	CILY		465	1112	1111	L/1/2	0 1 4	1470		
	904	Leu Th	r Cva	T400	Tλο	Fre	Δla			Ala	CVS	Arg			Glv	Leu
		3.eu 1.n	1475		LIC	1:75	да u	480	23.1 Cd	7 . 1	Syd	111.9	1485			
	907	Gin As	T475	micro	Mot	Lou			Gly	Agn	Asp			Va1	Lle	Cvs
		149		1 (1).	PIC (1495	Cys	011	шр	112/6	1.500				
	910	Glu Se	n Ala	(2) 157	Val			Agn	Ala	Ala			Arq	Ala	Phe	Thr
			[A) a	(3.1 Ā		151.0	Girti	мэр	1110	10100	1515	2,11,514				1520
E>	010	Glu Al	a Hot	mh.e			Sor	Δla	Pro			Asp	Pro	Pro	Gln	Pro
	916	GIU MI	a Met.		1525	1 J L		711LQ	110	1530	0 4. 7	1101			1535	5
	0.3.0	Glu Ty	e Ace			Ten	Tle	The			Ser	Ser	Asn	Val	ser	Val
	9.19	сти гу		1540	Oila	150.11	110		1545	0				1550		
	001	Ala Hi	e Aen	619	ΔLa	619	E.v.s			Tvr	Tyr	Leu	Thr	Arq	Asp	Pro
	922	85.1 Ct 11 1	1555		211.0	CLLI	10,517	560		- 1			1565			
	924	Thr Ti	r Dro	Ten	Ala	Ara			Trp	Glu	Thr	Ala	Arq	His	Thr	Pro
	925	157		20.0			1575		1			1580				
	007	val As	n Ser	Tro	Len	Gly	Asn	He	Tle	Met.	Phe	Λla	P.ro	Thr	$L\!\in\! u$	Trp
E>			.,	E		1590					1595					1600
	930	Ala Ar	a Met	Tle	Leu	Met	Thr	His	Phe	Phe	Ser	Va.l.	Leu	$_{\rm LLe}$	Ala	Arg
	931				1605					1.6.10					1613	5
	933	Asp Gl	n Lev	Glu	Gln	Ala	Leu	Asp	Cys	Glu	11e	Туг	Gly	Ala	Cys	Tyr
	934			1620					1625					1630		
	936	Ser II	e Glu	Pro	Leu	Asp	Leu	Pro	Pro	He	Tle	Gln	Arg	Leu	His	G17
	937		1635					1640					1645			
	939	Leu Se	er Ala	Phe	ser	Leu	His	ser	Tyr	Ser	Pro	Gly	Glu	11e	Asn	yrg
	940	165	0.0				1655					1660				
	942	Val A	a Ala	Cys	Leu	Ang	Lys	Leu	GLy	Va l.	Pro	Pro	ren	Arg	Ala	Trp
E>	943	665				1670					1675					1680
	945	Arg H	s Arg	Ala	Arg	ser	Val	Arg	Ala	Arg	Leu	Leu	Ala	Arg	GLY	Gly
	946				1685					1690					169	
	948	Arg A	a Ala	Tle	Cys	Gly	Lys	Tyr	Leu	Phe	Asn	Trp	Ala	Val	Arg	Thr
	949			1700					1.705					1710		
	951	Lys Le	o Lys	Leu	Thr	Pro	Ile	Ala	Ala	Ala	G1.7	GIn	Leu	Asp	ren	ser
	952		1715					1720					1725			
	954	Gly T	p Phe	rhr	Ala	Gly	туг	ser	Gly	GTĀ	Asp	Lle	Туг	HIS	ser	Vál
	955	1.7	30 ,				1735					1740		-		. 1 -
	957	ser H	s Ala	Arg			Trp	Lle	Trp				Leu	Leu	Leu	ALA
E>						1750					1755					1760
		Ala G	Ly Val			Tyr	Leu	Leu			Arg					
	961				1765					1770						

same

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/721,479

DATE: 12/07/2000 TIME: 07:23:33

Input Set : A:\seqlist.txt

Output Set: N:\CRF3\12072000\I721479.raw

see pr 8-10, dor 1566 <210> SEQ ID NO: 4 1567 <211> LENGTH: 1771 1568 <212> TYPE: PRT These huneve destifiers are 1569 <213> ORGANISM: Artificial Sequence
W--> 1571 (220) FEATURE:
W--> 1571 (223) OTHER INFORMATION:
1571 <400> SEQUENCE: 4 1572 Met Ala Ala Tyr Ala Ala Glm Gly Tyr Lys Val Leu Val Leu Asu Pro response is
Unknown or
Artificial Sequence
(see den 12 on
Even Summan
fleet) 1.0 1573 1 5 1575 Ser Val Ala Ala Thr Leu Gly Phe Gly Ala Tyr Met Ser Lys Ala His 1576 20 3.0 1578 Gly Ile Asp Pro Asn Ile Arg Thr Gly Val Arg Thr Ile Thr Thr Gly 1579 35 40 45 1581 Ser Pro Ite Thr Tyr Ser Thr Tyr Gly Lys Phe Leu Ata Asp Gly Gly 1582 50 1584 Cys Ser Gly Gly Ala Tyr Asp Ile Ile the Cys Asp Glu Cys His Ser 1585 65 70 75 80 1587 Thr Asp Ala Thr Ser Ite Leu Giy Ite Gly Thr Val Leu Asp Gln Aia 8.5 90 1590 Glu Thr Ala Gly Ala Arg Leu Val Val Leu Ala Thr Ala Thr Pro Pro 105 100 1593 Gly Ser Val The Val Pro His Pro Asn Ile Glu Glu Val Ala Leu Ser 1.25 115 320 1596 Thr Thr Gly Glu lle Pro Phe Tyr Gly Lys Ala Ile Pro Leu Glu Val 130 1.35 1599 The Tys Gly Gly Arg His Leu The Phe Cys His Ser Lys Lys Lys Cys 1600 145 150 150 155 1602 Asp Glu Leu Ala Ala Lys Leu Val Ala Leu Gly Ile Asn Ala Val Ala 170 1.75 165 1605 Tyr Tyr Arg Gly Leu Asp Val Ser Val fle Pto Thr Ser Gly Asp Val 185 180 1608 Val Val Val Ala Thr Asp Ala Leu Met Thr Gly Tyr Thr Gly Asp Phe 200 205 195 1611 Asp Ser Val Ile Asp Cys Asn Thr Cys Val Thr Gin Thr Val Asp Phe 1612 210 2.15 1614 Ser Leu Asp Pro Thr Phe Thr Ile Glu Thr Ile Thr Leu Pro Gln Asp 230 235 1617 Ala Val Ser Arg Thr Glm Arg Arg Gly Arg Thr Gly Arg Gly Lys Pro 250 245 1620 Gly lie fyr Arg Phe Val Ala Pro Gly Glu Arg Pro Ser Gly Met Phe 260 265 1623 Asp Ser Ser Val Leu Cys Glu Cys Tyr Asp Ala Gly Cys Ala Trp Tyr 275 280 285 1624 1626 Glu Leu Thr Pro Ala Glu Thr Thr Val Arg Leu Arg Ala Tyr Met Asn 300 1627 290 295 1629 Thr Pro Gly Leu Pro Val Cys Gln Asp His Leu Glu Phe Trp Glu Gly 310 315 1632 Val Phe Thr Gly Leu Thr His Tle Asp Ala His Phe Leu Ser Glo Thr

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/721,479

DAFE: 12/07/2000 TIME: 07:23:33

1635	Lys	Gln	ser		Glu	ASII	Leu	Pro	Tyr	Leu	Val	Ala	Tyr	Gln 350	Ala	Thr
1636				340					345			20	A		24.51.	77 81 8 8
1638	Val.	Cys		Arg	A.La	GJH	AJa		Pro	PLO	ser	тър	asp	G J. 11	MG.C	116
1639			355					360				0.1	365	a L		Y
1641	Lys	Cys	Lea	Tle	Arg	Leu	Lys	Pro	Thr	Leu	HIS	GIY	F,LO	Tur	Pro	Leu
1642		370					375					380				
1644	Leu	Tyr	Arg	Leu	GLy	Ala	Val	Gln	Asn	Glu	Tle	The	Leu	Thr	His	Pro
1645	385					390					395			_	_	400
1647	Val.	Thr	Lys	lyr	He	Met	Thr	Cys	Met	ser	Ala	Asp	Leu	Glu	Val.	Vai
1648					405					410					415	
1650	Thr	Ser	Thr	Trp	Val	Leu	Val	Cly	Gly	Val	Leu	Ala	Ala	Leu	Ala	Ala
1651				420					425					430		
1653	Tyr	Cys	i.eu	ser	Thr	Gly	Cys	Val.	Val	lle	Val	Gly	Arg	Va.l	Va).	Leu
1654			435					440					4.4.5			
1656	Sec	G17	Lys	Pro	Ala	He	Tle	Pro	Asp	Arg	Glu	Val	Leu	Tyr	Arg	Glu
1657		450					455					460				
1659	Phe	Asp	Ġlu	Met.	Glu	GLu	Cys	Ser	\mathfrak{Gln}	His	Len	Pro	Tyr	Tle	Glu	Gln
1660	465					470					475					480
1662	GLV	Met	Met	Leu	Ala	Glu	Gl n	Phe	Lys	Gln	Lys	Ala	Leu	Gly	Leu	Leu
1663					485					490					495	
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1666				500					505					510		
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1669			515					520					525			
1671	He	ser	Gly	Tle	Gin	Tyr	Leu	Ala	Gly	Leu	Ser	Thr	Leu	Pro	Gly	Asn
1672		530					535					540				
1674	Pro	λLa	11c	Ala	ser	Leu	меt	Ala	Phe	Thr	Ala	Ala	Val	Thr	Ser	Pro
1675	545					550					555					560
1677	Leu	Thr	Thr	Ser	Gln	Thr	Leu	Leu	Phe	Asn	He	Leu	Gly	Gly	gar	Va1.
1678					565					570					575	
1680	Ala	Ala	G l.n	Leu	Аlа	Ala	Pro	GLy	Ala	Ala	Thr	Ala	Phe	Val	Gly	Ala
1681				580					585					590		
1683	G1.7	Leu	Ala	Gly	Ala	Ala	He	Gly	ser	Val	Gly	Leu	Gly	Lys	Val	Leu
1684			595					600					605			
1686	rle	Asp	11.e	Leu	Ala	Gly	Tyr	Gly	Ala	Gly	Va.L	Ala	Gly	Δla	Leu	Va l
1687		610					-61.5					620				
1689	Ala	Phe	Lvs	Lle	Met	ser	Gly	Glu	Val	Pro	ser	Thr	Glu	Asp	Leu	Val
1690	625					6.30					635					640
1692	Asn	Leu	Leu	Pro	Ala	Tle	Léu	Ser	Pro	G l.y	Ala	Leu	Val	Val	G J. y	Val
1693					645					650					655	
1695	Val	Cvs	Ala	Ala	Tle	Leu	Ang	Arq	His	Val	Gly	Pro	Gly	Glu	Gly	Ala
1696	, ,	, ,		660					665					670		
1698	val	GIn	Tro	Met	Asn	Arq	Leu	11e	Ala	the	Ala	Ser	Arg	Gly	Asn	Ilis
1699	7 4.1.	J 17	675	,				680					685			
1701	Val	Ser		Thr	HLS	Tyr	val	Pro	Glu	ser	Asp	ALa	Ala	Ala	Arg	Val.
1702	*	690	0			. 4	695					700				
1704	Thr	Ala	116	Len	Ser	Ser		Thr	Val	Thr	Gln	Leu	Leu	Arg	Arg	Leu
1705	705					-7.1.0					7.15					720
1707	His	Gln	Tro	He	Ser		G l.u	Cys	Thr	The	Pro	Cys	Ser	Gly	Ser	qn T
4. 1 52 1		-2 4.11	· p					160				-		-		

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 DATE: 12/07/2000

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Input Set : A:\seqlist.txt

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	1714			755					760					765			
	1716	val	ser	Cys	Cln	Arg	Gly	Tyr	Lys	Cly	Val.	Trp	Arg	Gly	Asp	Gly	Tle
	1717		770					775					780				
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	1720						790					795					800
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	1723					805					810					815	
	1725	ser	Gly	Thr	Phe	bro	He	Asn	A.l.a		Thr	thr	Gly	Pro	Cys	'l'h r	Pro
	1726				820					825					830		
	1728	Leu	Pro	A l _i a	Pro	Asn	Tyr	Thr		Ala	Leu	Trp	Arg		ser	Ata	GJu
	1729			835					840					845			
	1731	G.l u		Val	Glu	He	Arg		Va I	GLy	Asp	Phe		4.A.L	vai	inr	GLY
	1732		850					855					860				
	1734		Thr	Thr	Asp	Asn		Lys	Cys	Pro	Суз		va±	Pro	ser	Pro	GIU
	1735						870					875		m 1: -	. 1 -	Overal	880
	1737	Phe	Phe	Thr	Glu		Asp	GIA	Val	Arg		HIS	Arg	Pne	Ala	Pro	PTO
	1738					885					890	15.1		17 - 3	c.1	895	11.1.5
	1740	Cys	Lys	Pro		Len	Arg	GTU	GLu		ser	5.06	arg	val	910 GIÃ	ren	HIS
	1.741				900	>		co. 1		905	G	01	()	010		1	Val.
	1743	GŢu	"ĘĂĽ		Val	GTY	ser	GIn		Pro	Cys	(a.Lti	PLO	-925	PLO	asp	Val
	1744 1746		1	915	m 1		t to k	Y	920	7 (1)	Direc	Car	Him		mark	λla	(23 n
		Ala		Leu	Thr	ser	мес	935	THE	asp	PIO	Ser	940	11.0), 11.4	7 (3, E)	(7.1.12
	$\frac{1747}{1749}$	3.3	930	01	2	Avan	Lau		7.200	C1:	Car	Dro		car	Va l	Ala	Sor
			VIG	ыту	ALG	MT 9	950	MIG	ALG	GT	ъез.	955	110	JUL	Y C.I.	111.0	960
	$\frac{1750}{1752}$		0.50	212	Con	e Lo		Car	Λla	Dro	Car		T vz e	λla	whe	Cve	
	1753	ser	ser	Ala	SGT	965	ыса	SCT	mru	11.0	970	1100	15 / .)	TI LU		975	
	1755	7.7.5	200	use	Acn		Dro	Aen	Ala	Glu		TIP	Glu	Ala	Asn		Leu
	1756	P. J. G	Man	13 1.23	980	DCI	2 1.0	DO F	212.00	985	1.74,742				990		
	1758	il no	λεστ	Gln		Mod	G Lv	GLV	Asn		Thr	Ara	Val	GLu	Ser	Clu	Asn
	1759	1. L. E.		995	G 2. G	110 13	O 1. 1		1000			.,		1005			
	1761	Lvs	Val		He	Len	Asp			Asp	Pro	Leu	Val.	Ala	G.Lu	Glu	Asp
	1762		1010		2. 22. 1-			1015		,			1020				
	1764	جدا ی	Arq	Glu	Tle	Ser	Val	Pro	Ala	Glu	rle	Leu	Arg	Lys	Ser	Arg	Arg
E>		025)				1030					1035					1.040
	1767		Ala	GIñ	Ala	Leu	Pro	Val.	Trp	Ma	Arg	Pro	Asp	fyr	Asn	Pro	$_{\rm DTO}$
	1768					1045					1050					105	
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	1771				1060					1065					1070		
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	1774			1075					0801					1.085			
	1776	Lys	Lys	Arq	Thr	val.			Thr	Glu	ser			Ser	Thr	Ala	Leu
	1777		1090					1095					1100				
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	1785	Pro	$b \iota c o$	Asp	ser	Asp	Δla	Glu	ser	Tyr	Ser	Ser	Met	Pro	Pro	Leu	Glu
	1786]	140					.145					150	a. 3	
	1788	Gly	Glu	Pro	Gly	asp	Pro	Asp	Leu	Ser	Asp	Cly	Ser	Trp	ser	Thr	Val
	1789		.1	11.55		6		.1	160					1165			
	1791			Glu	Ala	Asn	Ala	Glu	Asp	Val	val.	Cys	Cys	Ser	Met	ser	TAU
	1792]	L170				-	L175					. 1.80	a1	d11	/2 1 m	1 2742
	1794		Yrp.	Thr	Gly			Val	Thr	Pro	Cys,	A.I.a	Ата	Gau	G J. U	G.1 II	200
E>	179	185	/				190					195		111.0	má a		
	1797	Leu	Рго	116			Leu	ser	ASH	SCL	1210	rea	ALY	1113	nis	1215	Lea
	$\frac{1798}{1800}$			á		205	C	70 m/s	Car			Cln	Λεντ	Cln	Tays		
		Va I.	TYL			LDT.	Ser.			1225	Cys	13 1.11	271.5		1230	15 / 15	
	1801 1803	201	23 L	. I	220	Lou	210	M = 1			CAR	nie	Tur			va I	Term
		THI		дър 1235	MI 9	136311	GIII		240	Trof		11.2	111	1245	1100		
	$\frac{1804}{1806}$	1	(2.) n	Val.	Fare	Δ 7 m	Δla			Lvs	Val	Lvs			Leu	Leu	ser
	1807		1250	Va1	127.5	MIG		1255	150.2	2.7.2		-	1.260				
	1809	12-	Gin	Glu	Ala	Cvs	Ser	Leu	Thr	Pro	Pro			Ala	Lys	Ser	Lys
E>	1810		.,				270					275				. 1	1.280
	1812	Phe	GLy	TVT	Gly	Ala	Lys	Asp	Val.	Arg	Cys	His	Ala	A.cg	Lys	Λla	Val
	1813]	285					1290					1295	5
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	1816				L300				1	L305					1310		
	1818	Pro	11.e	Asp	Thr	Thr	He			Lys	Asn	Glu	Val	Phe	Cys	Val.	Gln
	1819			133.5					1320					1325	4.1		
	1821			Lys	Gly	Gly			Pro	Alla	Arg	Leu	Ile	Val	Pne	Pro	Asp
	1822		1330					1335					1340		17: I	17 × 1	are known
	1824			Val	Arg				Lys	нец	ALU	Leu	туг	ASP	V (1).	val	1360
E>	1835 1827	345			2		L350		Clu	Cor		1355	ctu	Dha	C En		
			Leu	Pro		A.La. 1365	va.i	EIC L	Gay		1370	1.7.1	Charg	UTIC	(7.1.11	137	5
	$\frac{1828}{1830}$	Dro	010	23 n	7 rea	V=1	clu	Dha	Lou			Ala	Trn	LVS	Ser		
	1831		6 T A		1380 1380		0111	r m.		1385		71.E.G	P		1390	7	
	1833	Thir	Pro				Ser	Tyr				Cvs	Phe	Asp	Ser	Thr	Val.
	1834	1 123.		1395	GII	1 ,14,			1400					1405			
	1836	Thr	Gln	Ser	Asp	He	Arq				Ala	He	Tyr	Gln	Cys	Cys	Asp
	1837		1410					1415					1420				
	1839	√J:€yi	Asp	Pro	Gln	Ala	Arg	Val.	Ala	11e	Lys	ser	Leu	Thr	Glu	Arg	Leu
E>	1846	425					1430					1435					1440
	1842	Ty.c	Val	Gly	Gly	Pro	Leu	Thr	Asn	ser	Arg	Gly	Glu	Asn	Cys	Gly	Tyr
	1843					1445					1450					145	
	1845	Arg	Arg			Ala	Ser	GLy	Val	Leu	Thr	Thr	ser	Cys	GLy	Asn	Thr
	1846				1460					1465		_	_		1470		7
	1348					11.e	Lys				Ala	Cys	Arg	A.I.a.	A I.a	GIY	Leu
	1849			1475					1480		1 a =	0.000		1485	Val	тЪо	Cue
	1851				Thr	мет		- Val. 1495	cys	GEY	Asp	Asp	1500	vai	val	1016	CAR
	1852	c-1	1490	A.T.	C1.	Val		G].u	Aen	Ala	Δla			Arm	Ala	Phe	Thr
	1.854	GIU	ser	ALG	GLY	val	GIR	G), (I	no!	25 t.CI	ri.ca	D to 1:	i.c.u	i i i	, , , , , ,		

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Input Set : A:\seqlist.txt

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1857 Glu Ala Met Thr Arg Tyr Ser Ala Pro Pro Gly Asp Pro Pro Gln Pro

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      1860 Glu Tyr Asp Leu Glu Leu Ile Thr Ser Cys Ser Scr Asn Val Ser Val
1861 1540 1545 1550
      1863 Ala His Asp Gly Ala Gly Lys Arg Val Tyr Tyr Len Thr Arg Asp Pro
1864 1555 1560 1565
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       1867 1570 1575 1580
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E--> 1870 585 1590 1595 1600

1872 51a Arg Met Fle Leu Met Thr His Phe Phe Ser Val Leu Ite Ala Arg

1873 1605 1610 1615
       1875 Asp Gin Leu Giu Gin Ala Leu Asp Cys Glu He Tyr Gly Ala Cys Tyr
1876 1620 1625 1630
       1878 Ser Ile Glu Pro Leu Asp Leu Pro Pro Ile Ile Gln Arg Leu His Gly 1879 1635 1640 1645
       1881 Leu Ser Ala Phe Ser Leu His Ser Tyr Ser Pro Gly Glu Ile Asn Arg 1882 -1650 -1655 -1660
1884 Vol Ala Ala Cys Leu Arg Lys Leu Gly Val Pro Pro Leu Arg Ala Trp
E--> 1886 665 1670 1675 1680
1887 Arg His Arg Ala Arg Ser Val Arg Ala Arg Leu Leu Ala Arg Gly Gly
1888 1685 1690 1695
       1890 Arg Ala Ala Ile Cys Gly Lys Tyr Leu Phe Asn Trp Ala Val Arg Thr
1891 1700 1705 1710
       1893 Lys Leu Lys Leu Thr Pro IIe Ala Ala Ala Gly Gln Leu Asp Leu Ser
1894 1715 1720 1725
       1896 Gly Trp Phe Thr Ala Gly Tyr Ser Gly Gly Asp Ile Tyr His Ser Val
1897 1730 1735 1740
1899 St. His Ala Arg Pro Arg Trp Ile Trp Phe Cys Leu Leu Leu Leu Ala E--> 1900 745 1750 1750 1755 1760 1902 Ala Gly Val Gly Ile Tyr Leu Leu Pro Asn Arg 1903 1765 1770
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       3487 Ser Val Ala Ala Thr Leu Gly Phe Gly Ala Tyr Met Ser Lys Ala His
3488 20 25 30
       3490 Gly Tie Asp Pro Asn Ile Arg Thr Gly Val Arg Thr Ile Thr Thr Gly 3491 35 40 45
       3493 Ser Pro Fle Thr Tyr Ser Thr Tyr Gly Lys Phe Leu Ala Asp Gly Gly 3494 50 55 60
       3496 Cys Ser Gly Gly Ala Tyr Asp Ile Ile Ile Cys Asp Glu Cys His Ser
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3497	6.5					7.0					75					80
3497	nihe.	Acres	7.1.a	The	cor		Loo	GIV	rle	C19		Va l	Leu	Asp	G.l n	
3500	1 11 1	изр	MIG	1 111	85	J. I.O	DC.G	O.L.		90				,	95	
3502	C Lu	9115.55	ΛLa	dly.		Ara	Len	val	Val		Ala	Thr	Ala	Thr	Pro	Pro
3503	Gru	1 111.	ATA G	100	LILU	ara	E.C.O		105					110		
3505	c.L.	Cor	Wa I	The	Val	Pino	ніс	рто		11e	Glu	Glu	val.		Leu	ser
3506	GLY	3 C I	115	1111.	v ct.t	110	11 11.5	120		3 13			1.25			
3508	gols r	Phr		Clu	TIA	Pro	Pho		Glv	TVS	Ala	Tle	P.ro	Leu	Glu	va.l
3509	3 11.1	130	1.11.2	0.1.0	1, 4, 4,	1 .2 3	1.35	ĩ,	0.1,			1.40				
3511	116	Tye	c1v	Glv	Ara	His			Phe	Cvs	His		LVS	Lys	LVS	Cys
3512	145	1.73	() L y	O L J	212.9	150	200		2 13		155		-	-		160
3514	Acn	Clu	Ten	Δla	Ala		Len	Val	Ala	Leu		Tle	Asn	Ala	Val.	Ala
3515	вар	() 1.14	rac a	PILC	165	17.7	L.C.G	1 (4).		170	0 /				175	
3517	Perm	Tur	Ara	Q Lsz	Lou	Asn	Val	Ser	Val		Pro	Thr	ser	Gly	Asp	Val
3518	Ly L	1 1 1	an g	180	1,10,102	, to p	* (2).	L, C, J.	185	1 7.0				190	•	
3520	Wal	Va 3	Va 1		Thr	Asp	Ala	T.eu		Thr	Glv	Tyr	Thr	Gly	Asp	Phe
3521	V CI I.	VUI	195	71.2 G	,	13.3 E		200	110.5			. ,	205			
3523	Aen	sar	Val	TIO	Asn	CVS	Asn		Cvs	Val	Thr	Gln	Thr	Va1	Asp	Phe
3524	Mak	210	V (1 1	110	2P		215		0,7			320			-	
3526	Sar		Asn	Pro	Thr	Dhe		He	Glu	Thr	Ile	Thr	Leu	Pro	Gln	Asp
3527		110.00	11.27			230					235					240
3529	Ala	Val	Sor	Ara	Thr		Ara	And	GLV	Arg	The	Gly	Arg	Gly	Lys	Pro
3530	74 I.u	Y (4)	1,7(-1.	x	245					250		-			255	
3532	Clv	TIE	Porr	Ara		Val	Ala	Pro	Glv		A.cq	Pro	Ser	Gly	Met.	Phe
3533	011	1. 1. 0	2 =	260					265		-			270		
3535	Asn	Ser	Ser		Leu	Cys	Glu	Cys	Tyr	Asp	Ala	Gly	Cys	Ala	Erp	Tyr.
3536	T CO.E.	.,	275			- 4		280	1	-		•	285			
3538	C1n	T.eu	Thr	Pro	Ala	Glu	Thr	Thr	Va.l.	Arq	Leu	Arq	A1a	Tyr	Met	Asn
3539	G 1. (4	290					295					300				
3541	Thr	Pro	Glv	Leu	Pro	Val	Cys	Gln	Asp	Uis	Leu	Glu	Phe	Trp	Glu	G17
3542	305					31.0					3.15					320
3544	Val	Phe	Thr	GLy	Leu	Thr	His	Tle	Asp	Ala	His	Phe	Leu	Ser	G1,n	Thr
3545					325					330					335	
3547	LVS	Gln	Ser	GLy	Giu	Asn	Leu	Pro	Tyr	Leu	Val	Ala	Tyr	Gln	Ala	Thr
3548				340					345					350		
3550	Val	Cys	Ala	Arg	A.l a	Gln	Ala	Pro	Pro	P.ro	ser	Trp	Asp	G.l n	Met	Trp
3551			355					360					365			
3553	Lys	Cys	Leu	Tle	Arg	Leu	Lys	Pro	Thr	Leu	His	Gly	Pro	Thr	Pro	Leu
3554		370					375					380				
3556	Leu	Tyr	Arg	Leu	Gly	Ala	Val.	Gln	Asn	GLu	LLe	Thr	Leu	Thr	Hi.s	Pro
3557	385					390					395					400
3559	Val	Thr	Lys	Tyr	He	Met	Thr	Cys	Met	ser	Ala	Asp	Leu	Glu	Val	Va.l.
3560					405					410					4.15	
3562	Thr	ser	Thr	Trp	Val	Leu	Val.	Gly	G1y	Val	Leu	A.l.a	Ala	Leu	Ala	Ala
3563				420					425					430		
3565	Tyr	Cys	Leu	Ser	Thx	Gly	сув	Val.	va l	lle	Val.	Gly	Arg	Val	Val	Leu
3566			435					440					445			
3568	Ser	G,Ly	Lys	Pro	Ala	LLe	Tle	Pro	Asp	Arg	Glu		Leu	Tyr	Arg	Glu
3569		450					455					460				

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3572						470					475					480
3574	Gly	Met	меt.	Leu	Ala	Glu	Gln	Phe	Lys	Gln	Lys	Ala	Leu	Gly		Leu
3575					485					490					495	
3577	Gln	Thr	Ala	Ser	Arg	Gln	Ala	Glu	Val	11e	Ala	Pro	Ala	Va l	Gln	Thr
3578				500					505					510		
3580	Asn	Trp	Gln	$\rm LVS$	Leu	Glu	Thr	Phe	Trp	Ala	Lys	His	Met	Trp	Asn	Phe
3581			515					520					525			
3583	11e	Ser	Gly	I l.e	Gln	Tyr	Leu	Ala	$\operatorname{Gl}_{\mathcal{X}}$	Leu	Ser	Thr	Fen	Pro	Gly	Asn
3584		530					535					540				
3586	Pro	Ala	$_{11e}$	Ala	ser	Leu	Met	Ala	Phe	Thr		Ala	Val	Thr	ser	Pro
3587	545					550					555					560
3589	Leu	Thr	Thr	ser	Gln	Thr	Leu	1.en	₽he		116	Leu	Gly	Gly	Trp	Val
3590					565					570					575	
3592	Ala	Ala	Gln	Leu	Ala	Alla	Pro	Gly		Ala	Thr	Λla	Phe		Gly	Ala
3593				580					585					590		
3595	Gly	ren	Ala	Gly	Ala	Ala	11e		ser	Val.	Gly	Leu		Lys	Val	Leu
3596			595					600					605			
3598	Lle	Asp	Hle	I.eu	Ala	Gly		Gly	Ala	GΊΣ	Val		GLy	Ala	Leu	Val.
3599		610					615					620			_	3
3601	Ala	Phe	Lys	He	Met		Gly	G.Lu	Val	Pro		Thr	Glu	Asp	Leu	
3602						630					635					640
3604	Asn	Leu	Leu	Pro		Tle	Len	Ser	5ro		Ala	Leu	Val	Val		Va L
3605					645					650			3		655	
3607	Val.	Cys	Ala		Lle	Leu	Arg	Ang		Val.	Gly	Pro	GLY		GLY	Ala
3608				660					665		- 1			670	3	11.5 -
361,0	Val	·GEn		Met.	Asn	Arg	Leu		Ala	Puc	Ala	ser		CLY	ASII	HLS
36.11			675					680	a.)			. 1 -	685		N 100 ce	Wa 1
3613	Val		Pro	Thr	His	Tyr		Pro	GLU	ser	Asp		Ald	BId	Arg	V d I.
3614		690	3			23	695		17 m 1	or b	Ola	700	Y	A 20.00	7. 20.01	Y 0.00
3616		Ala	TTe	Leu	ser		Leu	Inr	Val.	J.HY.		ьец	Leu	arg	ALG	720
3617	705		an.	~ 1		710	0.1	(3	m1	m la m	715	Cura	Con	(*1 xx	ė o v	
3619	H1.S	GID	1. r.b	Lie	725	ser	U.I.U	cys	1.01.	730	RTO	Cys	ser.	GTA	735	r r fa
$\frac{3620}{3622}$			No.	т3.а		200	There's	rla	Cuo		Val	Lan	ear	Aen		Tue
	Leu	Arg	ASP	740	ттр	ASP	rrb	1 1.62	745	GLU	V a.L	ьеи	SCI	750	ruc	Lys
3623 3625	int		T		43.0	free	T 43.13	Mist		Cln	Losi	Dro	Clv		Dro	Dha
	J. 11 J.	rrp	755	Lys	H.I G	Lys	Lieru	760	r.r.o	GIII	1.5511	FLO	765	1.1.	1.10	L III.
3626 3628	1757	000		Clin	Tree	chu	Tare		Clv	17:a T	Tierry	Arca		Agn	Glv	TTo
	V Ct 3.	770	Cys	OTH	H.C.	to Ly	775	1- y -5	CITÀ	V CCS.	1 7.1.	780	(14.7	OOP		
$\frac{3629}{3631}$	Mot		inh w	Λκα	CVC	шіс		C10	Ala	c tri	110		Glv	Hie	Val	LVS
		піѕ	1111	Arg	cys	790	CyS	(7.L ¥	13,1.Q	G1, G	795	1111	or I	23 3. 17	T (4.1.	800
3632 3634	785	dia.	mb.	Mot	Arc		Val	Glv	Pro	Ara		Cvs	Ara	Asn	Met	
3635	ASI	OTÀ	(111)	715. C.	805	110	Y U. 1.	GLY	110	810		- J - J		.,	815	I.
3637	Sar	CLV	Thr	Phe		He	Agn	ΔLa	Tor		Thr	Glv	Pro	Cvs		Pro
3638	oct	O 1. Y	1 11 1	820	21.0	1.t C	rue U	A.CO	825			-, -, 1		830	2,7-1	
3640	Lann	Pro	Ala		Agn	PTT	Thr	Phe		Leu	Tro	Ara	Va I		Ala	Glu
3641	ьсч	t to	835	110		1 2 1.	1111	840			[/	7	845			
3643	ch.	PV r		Glu	Tle	Aro	Gln		Glv	Aso	Phe	Ris		Val	The	Glv
2092	CIL U	1 J L	* ***	J.1 (1	1 1 0	9	3		I	E			- 4			

RAW SEQUENCE LISTING

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	3646		Thr	Thr	Asp	Asn		Lys	Cys	Pro	Cys	GLn	Va.i	Pro	ser	Pro	GEU
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	3649	Phe	Phe	Thr	Glu		Asp	Gly	Val	Arg		His	Arg	Phe	Ala	Pro	Pro
	3650					885					890				- 1-	895	
	3652	Cys	Lys	Pro		l.eu	Arg	Glu	Glu		Ser	Phe	Arg	Vál	GIV	reu	Has
	3653				900					905					910		
	3655	Glu	Tyr	Pro	Val	Gly	ser	Gln		Pro	Cys	GLu	Pro	Gitu	Pro	Asp	Val
	3656			915					920					925			
	3658	Ala	Va.l.	Leu	Thr	ser	Met	Leu	Thr	Asp	Pro	ser		Tle	Thr	Ala	GŁu
	3659		930					935					940				
	3661	Ala	Ala	Gly	Arg	Arg	Leu	Ala	Arg	GLy	Ser		PLO	ser	Val	Ala	Ser
	3662						950					955					960
	3664	ser	ser	Ala	Ser	Gln	T.e u	Ser	Ala	P.ro	Ser	Leu	Lys	Ala	Thr	Cys	Thr
	3665					965					970					975	
	3667	Ala	Asn	His	Asp	Ser	P.ro	Asp	Ala	GLu	Leu	11e	Glu	Ala	Asn	Leu	Leu
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	3670	Trp	Arg	Gln	G1u	Met	Gly	G1y	Asn			Arg	Val	GLu	ser	Glu	Asn
	3671			995					0.001		•			1005			
	3673	Lys	val	Val	rle	Leu	Asp	Ser	Phe	Asp	Pro			Ala	Glu	Glu	Asp
	3674		1010					1015					1020				
	3676	ميلرل G.	ĀΓĢ	$_{\rm GLu}$	$_{\rm LLe}$	Ser	Val	Pro	Ala	Giu	11e	Leu	Arg	Lys	ser	Arg	Arg
E>	367€	025	ノ				1030					1035					1040
	3679	Phe	Ala	Gln	Ala	Leu	Pro	Val.	Trp	A.La	Arq	hro	Asp	Туг	Asn	PEO	Pro
	3680					1045					1.05					1055	
	3682	i.eu	Val	G1u	Thr	Trp	Lys	Lys			TYL	Glu	Pro	5 r.o	Val	۷al	His
	3683				1060					1.065					1070	_	
	3685	Gly			Leu	Pro	Pro			ser	Pro	Pro			Pro	Pro	arg
	3686			1075					1080					1085			
	3688			Arg	Thr	Val			Thr	GLu	ser	Thr	Leu	ser	Thr	Aid	ren
	3689		1090					1095					1100		_	0.1	F1 -
	3691		Glu	Leu	Ala			Ser	Phe	GLV			Ser	Thr	ser		
E >	3692	`105	,				1110					1115					1120
	3694	mr	Gly	Asp			Thr	Thr	ser	ser			Ala	Pro	ser	GIY	Cys
	3695					1125					11.3			153		1.1.3.5	01
	3697	Pro	Pro			Asp	Ala	G.Hu			ser	ser	Met.			r _i eu	GLU
	3698				11.40					1145					1150	mbas	17 7
	3700	GLY			Gly	Asp	Pro			ser	Asp	GLY			ser	Thr	V at it.
	3701			1155					1160					11.65	3 F 1-	(2 6: 10	:0
	3703				Ala	Asn			Asp	Va I.	Val			Ser	MGC	ser	17.1
	3704		1.170					1175	ma I				1180	0.1	01.0	nin	Trees
	3706		Trp	Thr	Gly			Va I.	Thr	Pro	Cys	Ala	Ala	GLU	GIU	GLI II	1300
E>	3707)				1190					1195		10.2	VI 1		1200
	3709	Теп	Pro	He			Leu	ser	Asn	ser			A.rg	HIS			
	3710					1205	_				1.21			01		1215	
	3712	Val	Tyr			l, li ti	ser	Arg	ser	Ala	Cys	OTB	arg	Cz.Lfi	.гуs 1230	ьув	V (J. 1.
	3713				1220	~	e 1 h			1225	Cale	red c	(for one			Va.	Lon
	3715	Thr			Arg	Leu	GIN			Asp	ser	HIS	TAL	1.245	АБР	VCII	i, ctu
	3716			1235					1240					1.440			

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n Leu Leu Ser 3719 1250 1255 1260 3721 Val Clu Glu Ala Cys Ser Leu Thr Pro Pro His Ser Ala Lys Ser Lys
E--> 3722 (265) 1270 1275 1280
3724 PMC Gly Tyr Cly Ala Lys Asp Val Arg Cys His Ala Arg Lys Ala Val
3725 1285 1290 1295 3727 Thr His fle Asn Ser Val Trp Lys Asp Leu Leu Glu Asp Asn Val Thr 3728 1300 1305 1310 3730 Pro fle Asp thr thr ile Met Ala Lys Asn Glu Val Phe Cys Val Gln 3731 1315 1320 1325 3733 Pro Glu Lys Gly Gly Arg Lys Pro Ala Arg Leu Ile Val Phe Pro Asp 3734 1330 1335 1340 3742 Pro Gly Gln Arg Val Glu Phe Leu Val Gln Ala Trp Lys Ser Lys Lys 3743 1380 1385 1390 3745 Thr Pro Met Gly Phe Ser Tyr Asp Thr Arg Cys Phe Asp Ser Thr Val 3746 1395 1400 1405 3748 Thr Glu Ser Asp Ile Arg Thr Glu Glu Ala Ile Tyr Glu Cys Cys Asp 3749 - 1410 - 1415 - 1420 3751 Lor Asp Pro Gln Ala Arg Val Ala fle bys Ser Leu Thr Glu Arg Leu
E--> 3752 425 1430 1435 1440
7754 Tyr Val Gly Gly Pro Leu Thr Asn Ser Arg Gly Glu Asn Cys Gly Tyr
3755 1445 1450 1455 3757 Arg Arg Cys Arg Ala Ser Gly Val Leu Thr Thr Ser Cys Gly Asn Thr 3758 $1460 \hspace{1.5cm} 1465 \hspace{1.5cm} 1470$ 3760 Leu Thr Cys Tyr 1le Lys Ala Arg Ala Ala Cys Arg Ala Ala Gly Leu 3761 1475 1480 1485 3763 Gln Asp Cys Thr Met Leu Val Cys Gly Asp Asp Leu Val Val Tie Cys 3764 1490 1495 1500 3766 Grandler Ser Ala Gly Val Glu Asp Ala Ala Ser Leu Arg Ala Phe Thr
E--> 3766 Grandler Ser Ala Gly Val Glu Asp Ala Ala Ser Leu Arg Ala Phe Thr
1520
3769 Glu Ala Met Thr Arg Tyr Ser Ala Pro Pro Gly Asp Pro Pro Gln Pro
3770 1525 1530 1535 3772 Glu Tyr Asp Leu Glu Leu Ile Thr Ser Cys Ser Ser Ash Val Ser Val 3773 1540 1545 1550 3775 Ala His Asp Gly Ala Gly Lys Arq Val Tyr Tyr Leu Thr Arg Asp Pro 3776 1555 1560 1565 3778 Thr Thr Pro Leu Ala Arg Ala Ala Trp Glu Thr Ala Arg His Thr Pro 3779 1570 1580 37781 Val Asn Ser Trp Leu Gly Asn Ile He Het Phe Ala Pro Thr Leu Trp

E--> 3782 585 1590 1595 1600

3784 Ala Arg Met Ile Leu Met Thr His Phe Phe Ser Val Leu Ile Ala Arg

3785 1605 1610 1615 3787 Asp Gln Leu Gln Gln Ala Leu Asp Cys Glu Ile Tyr Gly Ala Cys Tyr 3788 1620 1625 1630 3790 Ser Ile Glu Pro Leu Asp Leu Pro Pro Ile Ile Gln Arg Leu His Gly

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                     1635
      3793 Leu Ser Ala Phe Ser Leu His Ser Tyr Ser Pro Gly Glu Ile Asn Arg 3794 1650 1655 1660
3796 val Ala Ala Cys Leu Arg Lys Leu Gly Val Pro Pro Leu Arg Ala Trp
E--> 3797 665 1670 1675 1680
3799 Arg His Arg Ala Arg Ser Val Arg Ala Arg Leu Leu Ala Arg Gly Gly
3800 1685 1690 1695
       3802 Arg Ala Ala Ile Cys Gly Lys Tyr Leu Phe Asn Trp Ala Val Arg Thr 3803 $1700$ $1705$ $1710
       3805 Lys Leu Lys Leu Thr Pro Tle Ala Ala Ala Gly Gln Leu Asp Leu Ser
       3806 1715. 1720 1725
3808 Gly Trp Phe Thr Ala Gly Tyr Ser Gly Gly Asp Ile Tyr His Ser Val 3809 1730 1735 1740

3811 Ser His Ata Arg Pro Arg Trp Ile Trp Phe Cys Leu Leu Leu Leu Ala 1750 1755 1760

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       4767 <223> OTHER INFORMATION: Description of Artificial Sequence:
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       4774 Ser Val Ala Ala Thr Leu Gly Phe Gly Ala Tyr Met Ser Lys Ala His 4775 20 25 30
       4777 Gly lie Asp Pro Asn Tle Arg Thr Gly Val Arg Thr Ile Thr Thr Gly 4778 $35$ 40 45
       4780 Ser Pro Tle Thr Tyr Ser Thr Tyr Gly Lys Phe Leu Ala Asp Gly Gly 4781 \phantom{-}50\phantom{+}55\phantom{+}55\phantom{+}60\phantom{+}
       4783 Cys Ser Gly Gly Ala Tyr Asp 1le 1le 1le Cys Asp Glu Cys His Ser
4784 65 70 75 80
       4786 Thr Asp Ala Thr Ser Ile Leu Gly Ile Cly Thr Val Leu Asp Gln Ala 4787 \phantom{\bigg|}85\phantom{\bigg|}\phantom{\bigg|}90\phantom{\bigg|}
       4789 Glu Thr Ala Gly Ala Arg Leu Val Vat Leu Ala Thr Ala Thr Pro Pro 4790 ... \pm 100 ... \pm 100 ... \pm 100 ...
       4792 Gly Ser Val Thr Val Pro His Pro Asn Ile Glu Glu Val Ala Leu Ser
       4793 1.15 1.20 1.25
       4795 Thr Thr Gly Glu Ile Pro Phe Tyr Gly Lys Ala 1le Pro Leu Glu Val
4796 130 135 140
       4798 The Lys Gly Gly Arg His Leu The Phe Cys His Ser Lys Lys Lys Cys 4799 145 150 155 160
       4801 Asp Glu Leu Ala Ala Lys Leu Val Ala Leu Gly Ile Asn Ala Val Ala 4802 \phantom{\bigg|} 165 \phantom{\bigg|} 175 \phantom{\bigg|}
       4804 Tyr Tyr Arg Gly Leu Asp Val Ser Val Tle Pro Thr Ser Gly Asp Val
                            180
                                               .185
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4807 4808	Val	Va.l	Val 195	Ala	Thr	Asp	Ala	Leu 200	Met	Thr	Gly	Tyr	Thr 205	Gly	Asp	Phe
4810	Asp	ser		Tle	Asp	Cys	Asn		Суз	Val	Thr	Gln		Va1	qsA	Phe
481.1		210					215					220				
4813	Ser	Leu	Asp	Pro	Thr	Phe	Thr	Ile	GLu	Thr	11e	Thr	Leu	Pro	Gln	Asp
	225					230					235					240
4816	Ala	Val	ser	Arg	Thr	Gln	Arg	Arg	Gly	Arg	Thr	Gly	Arg	Gly	Lys	Pro
4817					245					250				- 4 3	255	de t
4819	Gly	1 l.e	Tyr		Phe	Val	Ala	Pro		Glu	Arg	Pro	ser	GLY	Нет	Phe
4820				260					265		- 1			270	-	
1822	ASP	Ser		Val	Leu	Cys	GLu		Тyr	Asp	Ala	GEÄ		Ald	TTD	LAT
4823			275				ro I	280				4	285	Mark	I to be	A 1211
4825	Glu		Thr	Pro	Ala	GHu		rnr	Val	Arg	Leu	300	P. I. 61	171	ыес	ASH
4826		290					295	01		rr 1	T		Dho	O' acro	ė1	CLV
4828		PLO	GLY	Leu	PEO	310	Cys	(1111	asp	nis	31.5	CLLU	(-11 <i>C</i> :	1.L }/	01.17	320
4829 4831	305	Disc	ID lane	C1 11	Lon		u i e	1110	Acn	Ala		Dhe	Lasii	Ser	Gl n	
4832	Val	PHC	LIII	оту	325	į 11.L	птэ	LIC	uo1,	330	1113	(11(-	Lea	D.C.	335	
4834	1 1/10	C16	ser	cly		Aen	Leu	Pro	Tiszm		Va l	Ala	Tyr	Gln		Thr
4835	LIYE	(7111	.5 CT 1.	340	GIH	71.511	130214	1 1.07	345	2.50.11	,			350		
4837	Va 1	Cvs	Ala		Ala	Gln	λla	Pro		Pro	ser	Trp	Asp	Gln	Меt	Trp
4838	V (4 1.	C 1 3	355	11.1.19	1120	0		360					365			
4840	Lvs	Cvs		Tle	Arq	Lou	Lys	Pro	Thr	Leu	His	G.l.y	Pro	Thr	Pro	Leu
4841		370					375					380				
4843	Leu	Tyr	Arq	Leu	Gly	Ala	Val	Gln	Asn	G.Lu	1 Le	Thr	Leu	Thr	His	Pro
4844	385					390					395					400
4846	val	Thr	Lys	Tyr	Lle	Met	Thr	Cys	Met	ser	Ala	Asp	Leu	GIu	Val	Va I.
4847					405					4.1.0					415	
4849	Thir	ser	Thr	Trp	Val	Leu	Val	GLy	G.l.y	Val	Leu	Ala	Ala		ALa	Ala
4850				420					425					430		
4852	ryr	Cys		ser	Thr	GIA	Cys		Val.	rle	Va.l	GLY	Arg	Va I	Val	Leu
4853			4.3.5					440			- 15		145			0.1
4855	Ser		Lys	Pro	Ala	Tle		Pro	Asp	Arg	(j]], U		Leu	туг	Arg	Giu
4856		450					455			er !	T	460	7D - 4 - 5	110	ca.	CLo
4858		Asp	GLu	мет.	GIU		Cys	ser	G.EII	H LS	475	PIO	1 7 1	115	01.0	480
4859 4861			N	Ŧ	× 1	470	c-1	Dho	Taras	Clo		7 T a	Lou	c1v	Con	
	GLY	мет	мес	t.eu	485	ULU	GIII	EHE	Lys	490	ьуя	rt.L.u	ne u	QLL y	495	Cot., CI
4862 4864	C1.	Trly ac	7. L n	Cox		C310	λla	(2 I 11	Va l		Ala	Pro	Ala	Va l		The
4865	G 1.11	1111	HAG	500	BTA	CELLII	Hia	(1),(1	505	L J.C	243.04	,	7 (). ()	510	1	
4867	Aen	Tiro	(2.1 m		Len	G1n	The	Phe		Ala	[.VS	Ris	Met.		Asn	Phe
4868	21.311	1.1.5,	51.5	15 1 5	ELIV,	0.0		.520	F				525	1.		
4870	rle	Ser		He	Gln	Tyr	Leu		GIv	Leu	Ser	Thr	Leu	Pro	Gly	Asn
4871.		530					535					-540				
4873	Pro	Ala	Lle	Ala	Ser	Leu		Ala	Phe	Thr	A l.a	Ala	Val.	Thir	ser	Pro
4874	545					550					555					560
4876		Thr	Thr	Ser	Gln	Thr	Leu	Leu	Phe	Asn	Tle	Leu	Gly	Gly	тгр	Val
4877					565					570					575	
4879	A1a	Ala	Gla	Leu	Ala	Ala	Pro	Gly	Λla	Ala	Thr	Ala	Phe	Val	Gly	Ala

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1000				E 0.6					585					590		
4880	es la			580	. 1 .		T 1 -	01			CLV	Lon	Clv		V-13	Fann
4882	GIY	Leu		GLY	Ala	ALU	116		ser	AGT	G 1. y	цен		цуБ	V CI II.	i.e.u
4883			595					600					605	. 7		1
4885	fle	Asp	He	Leu	Ala	G.I.A		GLY	Ala	GLY	Val		Q.L.Y	ALU	Leu	vai
4886		610					615					620				
4888	Ala	Phe	Lys	Ile	Met		Gly	Clu	Val	Pro		Thr	GLu	Asp	Leu	Val
4889						630					635					640
4891	Asn	Leu	Leu	bro	Ala	He	t.eu	Ser	Pro		A l.a	Leu	Va J	Va.l		Val
4892					645					650					655	
4894	Va1	Cys	Ala	Ala	11e	Leu	Arg	Arg	His	Val	Gly	Pro	Gly		Gly	Ala
4895				660					665					670		
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4900	Val	Ser	Pro	Thr	His	Tyr	Val	Pro	Glu	Ser	Asp	Ala	ALa	Ala	Arg	Val.
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4903	Thr	Ala	Tle	Leu	Ser	Ser	Leu	Thr	Val	Thr	Gln	Leu	Leu	Arg	Arg	Leu
4904	705					710					715					720
4906	His	GIn	Tro	11e	Ser	ser	Glu	Cys	Thr	Thr	Pro	Cys	ser	Gly	ser	Trp
4907					725			-		730		-			735	
4909	Leu	Ara	Asp	Ile	Tro	Asp	Trp	Tle	CVs	Glu	Val	Leu	Ser	Asp	Phe	Lys
4910			;	740					745					750		
4912	The	Trop	Len	TVS	Ala	Lys	Leu	Met	Pro	Gln	Leu	Pro	Gly	He	Pro	Phe
4913			755	*				760					765			
4915	va t	Ser		Gln	Ara	Glv	Tvr	Lys	Glv	Val	Tro	Arq	Gly	Asp	Glv	1.1e
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49.18	Met		The	Ara	CVS	Bis		Glv	Αla	Glu	Tle	Thr	Gly	His	Val	LVS
4919					1	790					795					800
4921		Gly	Thr	MeE	Ara		Val	GTV	Pro	Ara	Thr	Cvs	Arg	Asn	Met	Trp
4922		CI I		7	805					810		,			815	
4924	Sar	C19	Thr	Pho		Tle	Asn	Ala	Tvr		Thr	Gly	Pro	Cvs	Thr	Pro
4925		017	2.713.	820					825					830		
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4928	1,100(4		835			. , _		840				.,	845			
4930	GIn	Tur		GIn	Tle	Arg	Gin		GIV	Asp	Phe	His	Tyr	Val	Thr	Gly
4931	03.4	850	1 04 54.	(3 1. (1	1110	112 9	855		,			860	.4			
4933	Mot		Thr	Asn	Asn	Leu		Cys	Pro	Cvs	Gln	Val	Pro	ser	Pro	G.l u
4934				r.m.p		870	10 1 10	1		- 2	875					880
4936		Dho	Thr	C.In	Ten		Glv	Va l	Ara	Læu		Ara	Phe	Ala	Pro	Pro
4937	r m.	riic	1111	01.0	885	11116	OLI	,	7	890	112.0		, ,,,,		895	
4939	Cve	Tue	Dra	Lon		a no	e tu	Glu	Va I		Phe	Ara	Val	Glv	Leu	His
1940	Cya	r. y o	110	900	35454	9	0.24	33.11	905	150. 2			,	91.0		
4942	Clo	(forms	Deco		015	car	c En	Ean		Circ	c.In	Dro	GI n		Agn	Val
4942	o i. u	гăг	915	v (Z 1	CI.I. y	OCL	O.LH	920	1.10	.,, .	CF.E. CI		925		11	
4945	All o	Val		The	Sar	Not	Ten		agn	Pro	Spr	Hic		Thr	Ala	Glu
4945	A J.Cl	930	Let (I	1 11.L	DC I.	rte t.	935	1111	anp		. N. I	940	1 3. 1.		. 3 3. 44	
4948	N 1 -		en.	A * · / ·	7 200	Lon		Arres	c.1v	Sar	Dro		gar	Val	Ala	Ser
4948		77.1.cl	GFÅ	ML 9	At A	950	21 I. Cl	nu y	o a y	OCI	955	F 1 C	SCL	F (2).	, , , (4	960
		000	λla	Car	Cle		e o ~	Ala	D co	Sor		Lare	Δla	The	Cve	
4951		ser.	Ala	ser	965	Leu	5er	Pt.J. (1	P.LU	970	a.eu	шуБ	ALL CI	LUL	975	.a. 11 t
4952					900					270					213	

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4966 PRO Ala Gln Ala Leu Pro Val Frp Ala Arg Pro Asp Tyr Asn Pro Pro
4967 1045 1050 1055 4969 Leu Val Glu Thr Trp Lys Lys Pro Asp Tyr Glu Pro Pro Val Val His 4970 1060 1065 $4972~\mathrm{Gly}~\mathrm{Cys}~\mathrm{Pro}~\mathrm{Leu}~\mathrm{Pro}~\mathrm{Pro}~\mathrm{Pro}~\mathrm{Lys}~\mathrm{Ser}~\mathrm{Pro}~\mathrm{Pro}~\mathrm{Val}~\mathrm{Pro}~\mathrm{Pro}~\mathrm{Pro}~\mathrm{Arg}$ 4973~1075~1080~10854975 Lys Lys Arg Thr Val Val Leu Thr Glu Ser Thr Leu Ser Thr Ala Leu 4976 1090 1095 1.100 4978 A of Glu Leu Ala Thr Arg Ser Phe Gly Ser Ser Ser Thr Ser Gly 11e
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E--> 4994 185 1190 1195 1200
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4997 1205 1210 1215 4999 Val fyr Ser Thr Thr Ser Arg Ser Ala Cys Gln Arg Gln Lys Lys Val. 5000 1220 1225 1230 5002 Thr Phe Asp Arg Leu Gln Val Leu Asp Ser His Tyr Gln Asp Val Leu 5003 1235 1240 1245° 5005 Lys Glu Val tys Ala Ala Ala Ser bys Val tys Ala As
n Leu Eeu Ser 5006 -1250 -1255 -12605008 Vot Glu Glu Ala Cys Ser Leu Thr Pro Pro His Ser Ala Lys Ser Lys E--> 5009 265 1270 1275 1280 5011 PHE Gly Tyr Gly Ala Lys Asp Val Arg Cys His Ala Arg Lys Ala Val 5012 1285 1290 1295 5014 Thr His Tle Asn Ser Val Trp Lys Asp Leu Leu Glu Asp Asn Val Thr 5015 1300 1305 1310 5017 Pro 11e Asp Thr Thr 11e Met Ala Lys Asn Glu Val Phe Cys Val Gln 5018 1315 1320 1325 5020 Pro Glu Lys Gly Gly Arg Lys Pro Ala Arg Leu Tle Val Phe Pro Asp 5021-1330 1335 13405023 Lea Gly Val Arg Val Cys Glu Lys Met Ala Leu Tyr Asp Val Val Thr E--> 5024 345 1350 1355 1360 5026 tys Leu Pro Leu Ala Val Met Gly Ser Ser Tyr Gly Phe Gln Tyr Ser

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	5030	uth so	Danis					00			A 1074	Cuc	uho			wh.v	M s l
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	5065			Pro	t.eu	Ala			Ala	ттр	(5 L (I	THE	A.i.a 1580		HIS	THE	PLO
	5066 5068		570	Com	(F) seven	f		1575	rto	7.10	Mo+	Dho			mbe	Lon	Tenn
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E/	5071		Arcı	Mot	TT to			Thr	Hic	Dho			Vaï	Lon	ΠÞ		
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	5096		730	77.	N	0		.735	Tila	di me	13 15 ~	Cuc	1740		Lou	T OU	a l a
D .	5098		nis	A 1.d	ALG		Arg L 750	ET b	1.1.6	rrb		Cys 1755	re: ()	ii.C(I	ugu		760
E >	2026	143)				,	. / 30					., , ,				1	700
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5440	gccLyatgeg	gtattttctc	cttacgeate	tgtgcggtat	ttcacaccgc	atatggtgca	9660
5442	ctctcagtac	aatctgctct	gatgeegeat	agttaageca	gtatacactc	cgctateget	9720
5444	acgtgactgg	gtcatggctg	cgeccegaca	cccgccaaca	cccyctgacg	cgccctgacg	9780
5446	ggettgtetg	ctcccggcat	cogcttacag	acaayctgtg	accgtctccg	ggagetgeat	9840
5448	gligt.cagagg	tittcacegi	catcacegaa	acgcgcgagg	cayet.geggt.	aaageteate	9900
5450	agegtggteg	tgaagegatt	cacagatgte	tgoctgttca	teegegteea	getegttgag	9960
5452	tttctccaga	agogttaatg	tetggettet	gataaagegg	gecatgttaa	gggéggtittt	10020
5454	ttcctgtttg	gtcactgatg	cetcegtgta	agggggattt.	ctgttcatgg	gggtaatgat	10080
5456	accgatgaaa	egagagagga	tgctcacgat.	acgggttact	gatgatgaac	atgeceggtt	10140
5458	actggaacgt	tgtgagggta	aacaactggc	ggtatggatg	eggegggaee	agagaaaaat	10200
5460	cactcagggt	caatgccage	gettegttaa	tacagatgta	ggtgttccac	agggtageca	10260
5462	geageatect	gegatgeaga	teeggaacat	aatggtgcag	ggcgctgact	tengegitte	10320
5464	cagactttac	gaaacacgga	aaccyaayac	cattcatgtt	gttgctcagg	togoagacgt	10380
5466	tttgcagcag	cagtogetto	acgutegete	gegtateggt.	gatteattet	getaancagt	10440
5468	aaggcaaccc	egecagecta	geegggteet	caacgacagg	agcacgatca	tigogoaccog	J0500
5470	tggccaggac	ccaacgctgc	cegagatgeg	cogogtgegg	etgetggaga	tggeggaege	10560
5472	gatggatatg	ttetgeeaag	ggttggtttg	egeatteaea	gtteteegea	agaattgatt	10620
5474	ggetecaatt		tgaatccgtt	agegaggtge	egoeggette	cattcaggte	10680
5476	gaggtggccc	ggctccatge	accgcgaege	aacgegggga	ggeagacaag	gtatagggcg	1.0740
5478	gegectaeaa	tecatgecaa	coegitecat	gtgctcgccg	aggeggeata	aatogeegtg	10800
5480	acgatcageg	gtccaatgat	cgaagttagg	ctggtaagag	cegegagega	teettgaage	10860
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5484	atgeegeegg	aagcgagaag	aatcataatg	gggaaggcca	Locagooteg	cgtcgcgaac	10980

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5486	gec	agea	aga	cgta	geec	ag c	gegt	egge	90	catg	cegg	cga	taat	ggc	ctgc	ttctcg	11040
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5490	aat	accg	caa	gogai	cagg	aa g	a t.ea	togt	e ge	gatio	cage	gaa	ageg	gtc	ctcg	cogaaa	11160
5492	atg	accci	aga	gege	tigee	gg c	acet	gtac	t ac	qagt	tgca	tga	taaa	gaa	gaca	gtcata	11220
5494	agt.	gegg	ega	egata	agtic	at g	adde	gaga	e da	ccgg.	aagg	age	tgac	t.gg	gitg	aagget	11280
5496	ctc	aagg	gca	t.egg:	t.ega:	gg a	teet	tcaa	t at	gaga	acat	āeg	etgt	tat	gitte	aaggt.c	11340
5498	ect.	t.egi::	t.t.a	agaa	ggaa.	ag c	gytic	tited	t tt	Lgag	ggat:	gtt.	tcaa	gt.t	gt:t.c	aaatet	1.1400
5500	atc	aaat	t.tg	caaa:	tece	na g	tetg	tate	t ag	ageg	ttga	atc	ggt.g	atg	ega ti	ttgtta	11460
5502	att	aaat:	Ega	tgğt	glica	ec a	ttac	cagg:	t cta	agata	rtac	caa	tgge	aaa	ctga	gcacaa	11520
5504	caa	tacci	agt	ceggi	atea	ac t	ggca	cca L	e te	taca	gtag	tet	cate	taa	tttt	tettee	11580
5506	gga	tgag	gtt	ccaga	atata	ас с	gcaa	cacc	t tt	atta	Eggt	Ltc	ectg.	agg	gaat	aataga	11640
5508	atig	taaa	att	cgaaa	a t.ca	cc a	atte	taaa.	a ata	gggc	gaut	t.gt.	att.t	egg	gtititi	gttaac	11700
5510	teg	titida	agt	cagga	aatg	tt e	caeg	t ga a	g eta	atet	teca	gca.	aagt	atic	cact	tottea	11760
5512	tça	aatt	gtg	gagaa	atac	ta e	caat	gete	t ta	teta	tggg	act	teeg	gga	aaca	cagtac	11820
5514	oga	tacti	Lac	caati	tegti	et t	caga	gete	i bb	gtth	gttt	gaa	gaga	cta	atca	aagaat	11880
5516	cgt	ttta	tica	aaaaa	aatta	aa t	atct	taac	t. ga	tagt	ttga	tca	aagg	gge	aaaa	cgtagg	11940
5518	gge	aaaca	aaa	eggaa	aaaa	te g	tttc	t.caa	a tt	trote	gatg	cca	agaa	ctc	taac	cagtet	12000
5520	tat	etaaa	aaa	t.tgc	ittai	tg a	t.ccg	tete	t ee	ggtta	icag	act	gt.gt.	aac	tgat	taatee	12060
5522	tge	ettte	cta	atca	ccati	te t	aatg	tttt	a at	taag	ggat.	ttt	gtet	tica	ttaa	aggatt	12120
5524	ticg	ctidat	taa	aaat	jttal	tg a	egti	Ltgc	e ege	baggi	2999	aaa	eda b	cca	atta	acgaga	12180
5526	ctq	atete	eet	atga	eggaa	ac a	eegg	gcate	a te	gaaci	ttat	aag	ttga	aga	aata	agagaa	12240
5528	titte	cagal	t:t.g	agaga	aatga	aa a	aaaa	aaaa	e ce	titag	ttea	tag	gtee	a tot.	ctet	tagoge	12300
5530	aac	tacae	pag	aaca	igada	ea e	aaac	адче	ı aa:	aaac	idac	aca	aceti	caa	taga	gtgatg	12360
5532	caa	ectgo	act.	gqaqi	caaal	tg a	tgac	acaa	g gca	aatt	jace	cac	qeati	qta	tcta	teteat	12420
5534	ttt	cttac	cac -	ette	tatta	ić c	titete	gete	ct	etga	Lttq	gaa	aaaqı	etq	aaaaa	aaaaqq	12480
5536	ttq	aaaco	caq	tteec	etgaa	aa t	tatte	acael	. a <i>c</i> 1	t.t.ga.	etaa	taa	gtata	ata	aaga	rgghag	12540
5538	ghai	Ligat	ttq:	t.aat.l	ctq	ta a	ateta	attte	t tita	aaac	ttet	taa	atte	tac	ttit	atagtt	12600
5540	agt	etiti	ttt	ttaqi	ittta	aa a	acace	caaqa	a act	ttagi	itte	qaa	taaa	cac	acata	aaacaa	12560
5542	acaa	agetit	tac .	aaaaa	caaa	atq	get.	qca	t.a.t.	qca	get.	caq	qqc	tat	aaq	qt.q	12711
5543							,								Lys		
5544						.1			•	5				-	1.0		
5546	cta	gt.a	ctc	aac	ccc	tet	qtt	get	gca	aca	ctq	qqc	ttt	ggt	qct	tac	12759
5547	Leu	Val	Leu	Asn	Pro	ser	Val	ALa	Ala	Thr	Leu	Gly	Phe	Gly	Ala	Tyr	
5548				1.5					20			•		25		_	
5550	atg	ticc	aag	get.	cat	ggg	atc	gat	act.	aac	atc	agg	acc	ggg	gtg	aga	12807
5551	Met	Ser	Lys	Ala	His	Gly	Tle	Asp	Pro	Asn	Tle	Arg	Thr	Gly	Val	Arg	
5552			30			•		3.5				-	4.0				
5554	aca	atit.	acc	act	qqc	age	ccc	atc	acq	tac	t.cc	acc	taċ	qqc	aaq	tte	12855
															Lys		
5556		4.5			•		50			-		55	-		•		
5558	ett	qcc	qac	qqc	qqq	tigo	teg	qqq	qqc	act.	tat	gac	ata	a t.a	att.	tat	12903
5559															Tle		
5560	60		_	-	4	65			-		7.0					75	
5562	gad	gaq	tge	cac	tec	acq	gat.	4CC	aca	tide	atc	L L.g	gge	att	qqc	act	12951
5563																	
5564	r.	-			8.0	-	Α.	_		8.5		_	.3		90		
5566	qte	cut	qac	caa		qaq	act.	qea	ada		aga	cta	qtt	ata		qee	12999
5567	-		-		-			,	4-1-							-	
5568	-			95		-			100		,			105			

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Imput Set : A:\seqlist.txt
Output Set: N:\CRF3\12072000\I721479.raw

5570 acc ged acc cet deg gge toe gtd act gtg ded cat dec aac atd gag 5571 Thr Ala Thr Pro Pro Gly Ser Val Thr Val Pro His Pro Asn Ile Glu 120 11.5 5572 1.10 5574 gag gtt get etg tee ace ace gya gag ate eet til tae gge aag get 13095 5575 Glu Val Ala Leu Ser Thr Thr Gly Glu Ile Pro Phe Tyr Gly Lys Ala 5576 125 1.30 1.35 5578 atc ecc etc qua qua atc aug ggg agg agg eat etc atc tte tgt eat 5579 lle Pro Leu Glu Val lle Lys Gly Gly Arg His Leu Ile Phe Cys His 5580 140 145 150 5582 toa aag aag aag tige gad gaa oto goo goa aag otig gto goa tig ggo 13191 5583 Ser Lys Lys Lys Cys Asp Glu Leu Ala Ala Lys Leu Val Ala Leu Gly 160 165 170 5584 5586 atc hat ger gtg ged tad tad egd ggt ett gae gtg ted gtd atd deg 13239 5587 The Ash Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val Ser Val The Pro 5588 175 180 185 5590 acc age gge gat gtt gte gte gtg gea acc gat gee etc atg acc gge 5591 Thr Ser Gly Asp Val Val Val Val Ala Thr Asp Ala Leu Met Thr Gly 5592 190 195 200 5594 tat acc ggc gae the gae tog gtg ata gae tgc aat acg tgt gtc acc 5595 Tyr Thr Gly Asp Phe Asp Ser Val 1le Asp Cys Asm Thr Cys Val Thr 210 215 5596 205 5598 cag aca gic gai lite ago cit gae cet ace the acc alt gag aca atc 13383 5599 Gln fhr Val Asp Phe Ser Leu Asp Pro Thr Phe Thr Ile Glu fhr Ile 230 225 5602 acq etc ecc caa gat get gtc tcc egc act caa egt egg ggc agg act 5603 Thr Leu Pro Glin Asp Ala Val Ser Arg Thr Glin Arg Arg Gly Arg Thr 240 245 5606 ggc any agg aag cea gge ate tac aga tit gtg gea eeg ggg gag ege 13479 5607 Gly Arg Gly Lys Pro Gly 11e Tyr Arg Phe Val Ala Pro Gly Glu Arg 5608 255 260 265 5610 ccc tee gge alg the gae teg tee gte etc tgt gag tge tat gae gea 13527 5611 Pro Ser Gly Met. Phe Asp Ser Ser Val Leu Cys Glu Cys Tyr Asp Ala 275 280 5612 270 5614 ggc tgt get tgg tat gag etc acg ecc gec gag act aca gtt agg eta 13575 5615 Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala Glu Thr Thr Val Arg Leu 290 5616 285 295 5618 ega qeg tac atg aac acc eeg ggg ett eec gtg tge cag gac cat ett 13623 5619 Arg Ala Tyr Met Asm Thr Pro Gly Leu Pro Val Cys Glm Asp His Leu 5620 300 305 5622 gaa tit tog gay ooc ott tit aca ooc otc act cat ata got occ cac 13671 5623 Glu Phe Trp Glu Gly Val Phe Thr Gly Leu Thr His Ile Asp Ala His 320 325 330 5626 tht cta tee eag aca aag cag agt ggg gag aac elt eet tac etg gta 13719 5627 Phe Leu Ser Glm Thr Lys Glm Ser Gly Glu Asn Leu Pro Tyr Leu Val 5628 335 340 345 5630 geg tac caa god ace gtg tgd get agg get daa ged det doo eba teg 13767 5631 Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala Pro Pro Pro Ser 355 5632 350 5634 tgg gac cag atg tgg aag tgt ttg att ege etc aag eee ace etc cat

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				_			-	•			•						
5635	Trp		Gln	Met.	Trp	Lys		Len	He	Arg	Leu		Pro	Thr	Leu	His	
5636		365					370					375					
5638																	13863
5639		Pro	Thr	Pro	Leu		Tyr	Arg	Leu	Gly				Asn	Glu		
5640						385										395	
5642																	13911
5643	Thr	Leu	Thr	His		Val	Thr	Lys	туг		Met	Thr	Cys	Met		Ala	
5644					400					405					410		
5646	gac	ctg	gag	gte	gtc	acg	age	acc	tgg	gtg	ctc	gtt	ggc	gge	gtc	cty	1,3959
5647	Asp	Leu	GŁu		Va l	Thr	Ser	Thr		Val	Leu	Val.	Gly	Gly	Val	Leu	
5648				415					420					425			
5650																	14007
5651	Ala	Ala	Leu	Ala	Ala	Tyr	Cys	ren	ser	Thr	Gly	Cys	Val	Val	11e	Val	
5652			430					435					440				
5654																	14055
5655	Gly		Val.	Val	Leu	Ser		Lys	b LO	A1a	Hle	Hle	P.ro	Asp	Arg	GLu	
5656		445					450					455					
5658	gtc	cte	tac	ega	gag	t.te	gat	gag	atg	gaa	gag	tgc	t.ct.	cag	cac	t.t.a	14103
5659	Val	Leu	Туг	Arg	Glu	Phe	Asp	$\mathrm{GL}\mathfrak{u}$	Met.	Glu	G1n	Суѕ	ser	G.l n	His	Leu	
5660	460					465					170					475	
5662																	14151
5663	Pro	Tyr	Tte	Glu	G.l.ti	Gly	Met	Met	Leu	Ala	GLu	Gla	Phe	Lys	GLn	Lys	
5664					480					485					490		
5666	gcc	etc	ggc	ctc	etg	cag	acc	geg	t.cc	egt,	cag	gca	gag	gtt	at.c	gcc	14199
5667	Ala	Len	GLy	J.eu	Leu	G.ln	Thr	Ala	Ser	Arg	$_{\rm GIn}$	Ala	Glu	val	Tle	Ala	
5668				495					500					505			
5670	cct	get.	gt.c	cag	acc	aac	tgg	caa	aaa	ctc	gag	acc	t.t.c	Lgg	gcg	aag	14247
5671.	Pro	Ala	Val	GIn	Thr	Asn	Trp	Gln	Lys	Leu	Glu	Thr	Phe	Trp	Ala	Lys	
5672			510					515					520				
5674	cat	atġ	tgg	aac	ttc	atc	agt	ggg	ata	caa	tac	ttg	geg	ggc	t.tg	tica	14295
5675	His	Met	Trp	Asn	Phe	$_{\rm ILe}$	Ser	Gly	11e	G $l.n$	Tyr	Leu	Ala	G.l.y	Leu	Ser	
5676		525					530					535					
5678	acg	ctq	cct	ggt	aac	CCC	gcc	att	get	tea	LLg	atg	gct	ttt	aca	get	14343
5679	Thr	Leu	Pro	Gly	Asn	Pro	Ala	11e	Ala	Ser	Leu	Me t	Ala	Phe	Thr	Ala	
5680	540					545					550					555	
5682	get	gt.c	acc	age	cca	cta	acc	act	age	caa	acc	ctc	ctc	ttc	aac	ata	14391
5683	Ala	Val	Thr	Ser	Pro	Leu	Thr	Thr	ser	G.l.n	Thr	Leu	Leu	Phe	Asn	Tle	
5684					560					56.5					570		
5686	ttg	ggg	ggg	t.gg	gt.g	get.	gee	cag	ctc	gee	gee	odd	ggt	gee	gct	act	14439
5687	Leu	Gly	Gly	frp	Val	Ala	Ala	Gln	Leu	Ala	Ala	Piro	Gly	Ala	Ala	Thr	
5688				575					580					585			
5690	gee	ttt	gtġ	gge	get	ágc	tta	get	gge	gcc	gee	atc	gge	agt.	gt.t.	gga	14487
5691																	
5692			590					595					600			-	
5694	ctg	ggg	aag	gte	ctc	ata	gac	atc	ctt	gca	qqq	tat	qqc	qcq	gge	gtg	14535
5695																	
5696		605					610					615			•		
5698	geg	gga	get	ct.t.	gtg	gea	titie	aag	atc	atq	age	qqt	qaq	gtc	ccc	Lcc	14583
5699																	

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5700	620					625					630					635	
5702	acg	gag	gae	ctg	gte	aat	cta	ctg	CCC	gee	atc	ct.c	ticg	ccc	gga	gee	14631
5703	Thr	GH,u	Asp	Leu	Val	Asn	Leu	Leu	Pro	Ala	lle	Len	Ser	Pro	Gly	Ala	
5704					640					645					650		
5706	ctc	gta	gtc	ggc	gtg	gt.c	tgt.	gea	gca	ata	etg	cqc	cad	cae	gtt.	age	14679
						Val											
5708				655			_		660					665		-	
5710	ecq	gge	gag	qqq	qca	gt.g	cag	taa	ata	aac	caa	cta	ata	acc	tte	acc	14727
571.l	Pro	Gly	Glu	Gly	Ala	Val	GLn	Trp	Met	Asn	Arg	Leu	Tle	Ála	Phe	Ala	
5712		-	670	-				675			,		680				
5714	Ecc	cqq	qqq	aac	cat.	gtt	Lee	000	acq	cac	tac	ata	cca	gag	age	gat.	14775
						Val											
5716		685					690				- /	695		, ,		1	
5718	aca	acti	qcc	cac	git.c	act	gac	ata	et e	age	age	cre	act	ata	acc	сап	14823
						Thr											34023
5720				,		705				K7 C7 AL	71.0	A.C.U	. 113.	* ((1		71.5	
		eta	agg	cga	etra	cac	cag	tora	aha	aac		gag	tart	a 00	act		14871
						llis											T40 \ T
5724	LIC G	150.11	.11.9	ar 9	720	11.1.3	OTI	TTF	11(725	DOL	J.i. ti	Cys	LILL	730	PLO	
	tac	tee	oal	tee		eta	300	aac	ato		0.50	tora	ata	Laa		alter	14919
5727																	14913
5728	010	C24 - 1.	CI J	735	1 3. 12	1.00	ur â	сыр	740	цр	нар	11.5	1.1.63	745	GIU	V CL.L	
5730	tta	age	a a c		237	200	taa	otra		ant:	2.247	ata	n tra		(3.5) CT	ata	14967
						Thr											14907
5732	LICH	OCI	750	E 1103	пйа	1111	тър	755	rys	ALG	БуБ	Leu	760	P1.0	GIII	rea	
5734	cat	(1/3/1		000	4-1-1-	ata	taa		a a cr	oxa	0.00	F 4.			a leas	A	15015
5735																	15015
5736	FIU	765	4 1.0	ETO	rife	v ci i	770	Cys	GIII	ATG	Gry	775	ьув	G.t y	V d.1	1.T.D	
	(1/7.5)		(f.) (d	(7.77.7)	200	nta	,	n a t	6.44.0	h							15000
5738																	15063
5739 5740		GIA	asp	G.L.Y	TTG	785	mis	PHI.	arg	Cys		Cys	аТА	Ala	GIU		
											790					795	
5742																	151.11,
5743 5744	1.01.	G J, y	HLS	Val		ASH	G.1. y	TOE	мет		116	Val.	GTĀ	PEO	-	Thr	
	t- 01 >				800	20.0				805					810		25470
5746																	15159
5747	Cys	Arg	ASII		Trp	ser	GLY	THY		Pro	1 765	Asn	ALa	,	Thr	Thr	
5748				815					820					825			
5750																	15207
575T	GII	PLO		THE	PEO	ueu	P.CO		Pro	ASB	TZr	THE		Ala	Len	Trp	
5752			830					835					840				
5754	agg	gug	tet	gca	gag	gaa	tac	gtg	gag	ata	agg	cag	gtg	999	gac	ttc	1.5255
5755	Arg		ser	Ala	G.Lu	GLu		Val	GTu	Tile	Arg		Va.L	G.l y	Asp	Pho	
5756		845					850					855					
5758																	15303
5759		ТУĽ	Val	Thr	GLy		Thr	Th.c	Asp	Asn		Ŀys	Суѕ	Pro	Cys		
5760						865					870					875	
5762																	1,5351
5763	Val	P.ro	ser	5ro		Phe	Phe	Thr	Gl.u		Asp	Gly	Val	Arg		His	
5764					880					885					890		

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Input Set : A:\seqlist.txt
Output Set: N:\CRF3\12072000\I721479.raw

5766	agg	t.t.t	geg	ccc	ccc	tgc	aag	ccc	ttg	ctg	cgg	gag	gag	gta	tica	ttc	15399
5768	Arg	Phe	ALG	895		Cys	Lys	Pro	_Leu 900		Arg	GLu	Glu	Val 905		Phe	
	aga	ota	uga			gaa	tac	cca			tion	caa	Eta			0.00	15447
5771	Arg	va.i.	GLY	Leu	His	Glu	Tyr	Pro	Val	Glv	Ser	Gln	Len	Pro	Cve	Glu	1.3447
5772			910					9.15		2			920		0 / 2.	C) L C	
5774	ccc	gaa	ccq	gac	qtq	gcc	gtg	titg	acg	taa	at.g	ctc	act	gat	ccc	t.cc	15495
5775	Pro		Pro	Asp	Val	Ala	Val	Leu	Thr	ser	Met	Leu	Thr	Asp	Pro	Ser	
5776		925					930					935					
5778	cat	aba	aca	gca	gag	geg	900	999	cga	agg	t.t.g	geg	agg	gga	t.ca	CCC	15543
5779	His 940	lle	Thr	Ala	GLu		Ala	Gly	Arg	Arg		Ala	Arg	Gly	Ser		
		tot	a +		200	945	L				950					955	
5793	ecc Pro	Colo	g eg Val	gee	age	CON	teg	get	age	- cag	cta	too	get	cca	tet	ctc	15591
5784	110	oe,	A 65 T	MIG	960	Ser	561	2\ 1. ct	Set	965	Leu	Ser	A±a	Pro	- ser - 970	ren	
	aag	aca	act	tac		act	aac	cat	gae		cet	rat.	aat	(1.3(1		a + a	15639
5787	Lys	Ala	Thr	CVS	Thr	Ala	Asn	His	ASD	Ser	Pro	Asn	Ala	GIn	Lon	Ela.	1,3037
5788				975					980	,, c. L	110	11019	21.1,14	985	LIC. 11	116	
5790	gag	gee	aac	ctc	cta	tgg	agg	cag	qaq	atg	adc	aac	aac		acc	agg	15687
5791	Glu	Λla	Asn	Leu	Leu	Trp	Arg	Gln	GLu	Met	Gly	Gly	Asn	lle	Thr	Arq	
5792			990					995					1000				
5794	g t.t.	gag	t.ca	gaa	aac	aaa	gt.g	gt.g	att	ct.g	gae	tee	ttc	gat:	ccg	ct.t.	15735
5795	Val		Ser	Glu	Asn			Val	$_{11e}$	Leu	Asp	ser	Phe	Asp	Pro	Leu	
5796		1.005					1010					1015					
5798	gtg	geg	gag	gag	qac	gag	egg	gag	ate	taa	gta	CCC	gca	gaa	atc	etg	15783
5000	Val 1020	ALa	GEU	GLu			Arg	GLu	He			Pro	Ala	G.L tt			
			tot	200		1025					1030					1.035	
5803	egq Arg	Tre	Cor	Gåd	Area	Dho	900 A1-a	Cag	gee	cug	CCC	gtt	tgg	àca	cgg	ccg	15831
5804	111.9	1.70	J C. 1.		1040	LHC	H.I. a	GIH		1.045	P 1. O	vai	ттр		AEG 1050	PTO.	
	gac	tat.	aac			ctra	ata	asa			aaa	aad	ccc			даа	15879
5807	Asp	Tyr	Asn	Pro	Pro	Leu	Val	GLu	Thr	Trp	Levs	LVS	Pro	Asn	Tyr	Clu	.0079
5808				1055					060	,	/	1 1		.065	. / ~		
5810	cca	cct	gtg	gte	cat	ggc	tgc	ccg	ctt	cca	cct	cca	aag	tied	act	cet	15927
5811	Рго	Pro	Val	Val	His	Gly	Суѕ	Pro	Leu	Pro	Pro	Pro	Lys	ser	Pro	Pro	
5812]	.070				1	.075					080				
5814	gŁg	cct.	ccg	ect	cgg	aag	aag	egg	acg	gtg	gte	ctc	act	gaa	tea	acc	15975
5815			Pro	Pro	Arg			Arg	Thr	va l			Thr	G1u	ser	Thr	
5816		085					090					.095					
5818	Cta	CCL	act	gcc	t.t.g	gae	gag	cte	gee	acc	aga	age	tit	ggc	age	tee	16023
5819 5820	1100	Ser	1111	Bld		A1a .105	GLU	E⊕ U				ser	Phe	Gliy			
5822			troo	aao			aaa	000	25.5		.110			h.		1.1.5	1.0000
5823	Sec	Thr	Ser	GIV	rle	acy Thr	Glv.	yac Aen	Acn	acq	The	aca whe	CCC	Can	gag	CCC	16071
5824			1.1 (. 1.		1.20	111.0	CI.L Y	гар		1.25	1111	L 111.	SET		.1.30	PLO	
5826	qcc	cot	tet			ccc	ccc	gae			act	αаα	tee	tat	toc	tee	16119
5827	Ala	Pro	Ser	бĺу	Cys	Pro	Pro	Asp	Ser	Asp	Ala	Glu	Ser	Tvr	Ser	Ser	.E. O. J. J. J
5828			1.	1.35				1	140				1	145			
5830	atg	ccc	ccc	c t.g	gag	ggg	gag	cet	999	gat.	ceg	gat	ctt	age	gac	ggg	1.6.1.6.7

 RAW SEQUENCE LISTING
 DATE: 12/07/2000

 PATENT APPULCATION:
 US/09/721,479
 TTME: 07:23:34

5831	Het	Pro	Pro	Leu	GLu	Gly				Asp	erg	Asp			Asp	Gly	
5834	cca	rag	tea	acg	arc	aqt	agt	gag	acc	aac	geg	gaq	gat	. gtc	gt.g	tge	16215
0830			ser	Thr	va.i				ALa	Asn				val	Val.	Cys	
5838	tge	tea	atg	tet	tac	tet	t.gg	aca	ggc	gca	ete	gtc	acc	ccd	tge	gee	16263
5839	Cys	Ser	Met.	Ser				Thr	Gly	Ala	Leu	Val	Thr	Pro	Cys	Ala	
																1195	
5842	aca	gaa	gaa	cag	aaa	otg	CCC	at.c	aat	gea	cta	age	aac	teg	ttg	cta	1.6.3 1.1
5843	Ala	Glu	GŁu			Leu	5, co	lle			Leu	Ser	Asn	Ser	Leu	Leu	
															1210		
5846	egt	eac	cac	aat	t.t.g	gt.g	tat	tee	acc	acc	tea	ege	agt	. get	tge	caa	16359
5847	Arg	His				Val	Tyr	Ser	Thr	Thx	Ser	Arg	ser	Ala	Cys	$G \ln n$	
5850	agg	cag	aag	aaa	gte	aca	t t t	gac	aga	ctg	caa	gtt	ctg	gac	age	cat	16407
5851	Arg	Gln	Lys	Lys	Va.l	Thr	Phe	Asp	Arg	Leu	Gln	Va,l	Leu	Asp	Ser	His	
5854	tac	cag	gae	gta	ctc	aag	gag	gtt	aaa	gca	geg	geg	tca	aaa	gtig	aag	16455
			Asp	Val	ren	Lys	Glu	Val	Lys	Λla	Ala	Ala	Ser	Lys	Val	Lys	
5858	get	aac	ttg	et.a	tee	gta	gag	gaa	get	t.g.e	age	ctg	acg	ccc	cca	cac	16503
5859	Ala	Asn	Leu	Leu	ser	Val	Glu	Glu	Ala	Cys	ser	Leu	Thr	P.ro	P.ro	His	
																1.275	
5862	tca	gee	aaa	tec	aag	ttt	ggt.	tat	999	gca	aaa	gae	qtc	egt.	tgc	cat.	16551
5863	ser	Ala	Lys	ser	Lys	Phe	G17	Туг	Gly	Ala	Lys	Asp	Val.	Arg	Cys	His	
5864					1.280					1285					1290		
5866	gcc	aga	aag	gee	gt.a	acc	cac	atc	aac	t.cc	gtg	tgq	aaa	qac	ctt	ctq	16599
5867	Ala	Arg	Lys	Ala	Val	Thr	His	He	Asn	ser	Val	Trp	Lys	Asp	Leu	Lea	
5868																	
5870	gaa	gae	aat	gta	aca	cca	ata	gac	act	acc	atc	atq	act.	aaq	aac	gag	16647
5871	GLu	Asp	Asn	Va.l	Thr	Pro	11e	Asp	Thr	Thr	He	Met	Ala	Lys	Asn	Glu	
5872																	
5874	gt.t	tte	tige	gbt	cag	cet	gag	aaq	qqq	ggt	cqt	aaq	cca	gct.	cat.	ete	16695
5875	Val	Phe	Cys	Val	Gln	Pro	Glu	Lys	GIV	Ğİv	Arq	Lys	Pro	Ala	Arq	Leu	
5876								_	•						.,		
5878	atic	gtg	t.t.c	CCC	gat	ctq	gge	gtg	cqc	qtq	tigo	gaa	aaq	a t:u	act	t.t.a	16743
5879	He	Val	Phe	P.ro	Asp	Leu	Gly	Val	Arq	Val	Cvs	Glu	Livs	Met	Ala	Len	
5880	1340)					."		.,				,2				
5882	tac	gac	gtg	gtt	aca	aaq	otic	ccc	tta	ggg	ata	at.d	ada	anc			16791
5883	Tyr	Asp	Val	Val	Thr	LVS	Leu	Pro	Len	Ala	Val	Met	GIV	Ser	Ser	Tyr	2077.1
5884													*****/			-,, .	
5886	qga	tte	caa	tac	tea	cca	aga	cad			gaa	ttc	ete			aca	16839
5887	Gly	Phe	Gln	Tyr	Ser	Pro	GIV	Gln	Ara	Val	GIn	Pho	Len	Val	Gla	Ala	40000
5888	1									1 04 1	01.0	I II.			G J. II	73.1.64	
5890	taa	aaσ			aaa	acc	cca			tte	tiea	Eat			COC	tae	16887
5891	Trp	LVS	Ser	LVS	Lys	Thr	Pro	Met	Glv	Phe	Ser	Tyr	Aen	Thr	Ara	Cyc	1.000/
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	ttt.			aca	ate	act			aac	ate	cat			0.80	000	aba	16935
5895	Phe	Asp	Ser	Thr	va1	Thr	Glu	Ser	Agn	Tle	Arm'	Thr	Glu	Glu	g Ca A La	117	20935
			K- C-L	. 111.	- 4.1	2.111	J J. (I	Det	чэБ	TTG	n.i y	1111	G.I U	e j, u	e.i.d	T.E	
	5832 5834 5836 5838 5848 5849 5842 5844 5846 5847 5858 5852 5854 5858 5858 5858 5868 5868 5872 5874 5875 5878 5778	5832 5834 tca 5835 Ser 5838 tgc 5839 Cys 5840 118 5844 41a 5846 cgt 5851 Arg 5852 5854 tac 5858 get 5859 Ala 5860 1260 5863 Ser 5864 5866 gec 5867 Ala 5872 5874 glt 5872 5874 glt 5875 Val 5872 5874 glt 5875 Tyr 5878 atc 5880 1340 5882 tac 5883 Tyr 5884 5886 gga 5887 Gly 5888 5890 tgg 5892 5894 ttt	5832 5834 tea typ 5835 Ser Trp 5836 1165 5838 type tea 5839 Cys Ser 5840 1180 5842 yeg gaa 5843 Ala Glu 5844 6gt eac 5847 Arg His 5846 agg eag 5851 Arg Gln 5852 5854 tac eag 5855 Tyr Gln 5856 1245 5858 get aac 5859 Ala Asn 5860 1260 5863 Ser Ala 5860 2 tea gec 5863 Ser Ala 5864 yell Arg 5868 5870 gaa gae 5871 Glu Asp 5872 1325 5874 gtt ttc 5875 Val Phe 5876 1325 5878 atc yeg 5879 Ile Val 5880 1340 5882 tac gae 5883 Tyr Asp 5884 493 ttc 5887 Gly Phe 5888 5890 tag aag 5891 Trp Lys 5888 5890 tag aag 5891 Trp Lys 5892 15894 ttt gae	5832 1150 5834 tca tyg tca 5836 1765 5838 tyc tca aty 5839 Cys Ser Net 5840 1180 5842 gcg gaa gaa 5843 Ala Glu Glu 5844 5846 cgt cac cac 5847 Arg His His 5848 5850 agg cag aag 5851 Arg Gln Lys 5852 1230 5854 tac cag gac 5855 Tq Gln Asp 5856 1245 5858 gct auc ttg 5859 Ala Asn Leu 5860 1260 5862 tca gcc aaa 5863 Ser Ala Lys 5864 5866 gcc aga aag 5867 Ala Arg Lys 5868 5868 gcc aga aag 5867 Ala Arg Lys 5868 5869 gcc aga aag 5871 Glu Asp Asn 5872 1310 5874 gtt ttc tyc 5875 Val Phe Cys 5878 atc gtg ttc 5879 fle Val Phe 5880 1340 5882 tac gac gtg 5883 Tyr Asp Val 5884 gga ttc caa 5887 Gly Phe Gln 5888 Gga ttc caa 5892 try Ser 5891 Try Ser 5891 Try Ser 5892 1390 5894 ttt gac tcc	5832 1150 5834 tca tsg tca acg 5835 Ser Trp Ser Thr 5836 1165 5838 tgc tca atg tcc 5840 1180 5842 gg gaa gaa cag 5843 Ala Glu Glu Glu 5844 Glu Glu Glu 5844 Glu Glu 5844 Ala Glu 5844 Glu 5844 Arg 5845 L215 5850 agg cag 4 arg Gln 5851 Arg 5852 1230 5853 Trg 5854 tac cag 5855 Trg 5856 L245 5857 Tac cag 5858 tac cag 5859 Ala Asn 5860 1245 5861 L245 5862 cag 5863 gac 5864 Lys 5865 gc <t< td=""><td>5832 1150 5834 tca tsg tca acg gtc 5835 Ser Trp Ser Thr Val 5836 1165 5838 tgc tca atg tct tac 5840 1180 5842 gcg gaa gaa cag aaa 5843 Ala Glu Glu Glu Gln Lys 5844 1200 5845 Ala Glu Glu Glu Lys 5846 cgt cac cac aat ttg 5847 Arg His His Asn Leu 5850 agg cag aag aaa gtc 5851 Arg Glu Lys Lys Val 5852 1230 5853 Arg Glu Lys Lys Val 5854 tac cag gac gta ctc 5855 Tyr Glu Asp Val Leu 5856 1245 5857 gct aac ttg cta tcc 5858 gct aac ttg cta tcc 5859 Ala Asu Leu Leu Ser 5860 1245 5861 1245 5862 gct aac ttg cta tcc 5863 Ser Lys 5864 Lys Ser Lys 5865 gct aga agg gce gta <!--</td--><td>5832 1150 5834 tca tqq tca acq qtc aqt 5835 Ser Trp Ser Thr Val Ser 5836 1165 5838 tgc tca atg tct tac tct 5840 1180 1185 5842 gcg gaa gaa cag aaa ctg aaa ctg 5844 1180 1185 5842 gcg gaa gaa cag aaa ctg aaa ctg 5844 1200 1200 5846 cgt eac cac aat ttg gtg 5847 Arg His flis Asn Leu Val 5850 agg cag aga gaa gac gtc aca 5851 Arg Gln Lys Lys Val Thr 5852 1230 5854 tac cag gac gtc ctc aag 5855 Tyr Gln Asp Val Leu Lys 5856 1245 5858 gct ac ttg cta tcc gt 5860 1245 5863 Ser Ala Lys Ser Lys Phe 5863 Ser Ala Lys Ser Lys Phe 5864 1280 5865 gc aga agg gc gta acc 5866 1225 5877 Glu Asp Asn Val Thr</td><td>5832 1150 5834 tea teg tea aeg gte agt agt 5835 Ser Trp Ser Thr Val Ser Ser 5836 1165 1170 5838 teg tea atg tot tac tet teg 5839 Cys Ser Met Ser Tyr Ser Trp 5840 1180 1185 5843 Cys Ser Met Ser Tyr Ser Trp 5840 1180 1185 5844 Old Glu Glu Lys Leu Pro 1200 1200 5844 Ala Glu Glu Glu Glu Lys Leu Pro 1200 1200 5846 Ogt eac cac aat ttg gtg tat 5843 Arg His His Asn Leu Val Tyr 5843 5847 Arg His His Asn Leu Val Tyr 5843 1215 5850 agg cag aag aaa gtc aca ttt 5851 Arg Gln Lys Lys Val Thr Phe 5852 5851 Arg Gln Lys Lys Val Thr Phe 5852 1230 5854 tac cag gac gta ctc aag gag 36 5855 Tyr Gln Asp Val Leu Lys Glu 1250 5866 1245 1250 5867 Ala Asn Leu Len Ser Val Glu 146 5868 gct aca ttg cta tcc ga 326 5869 Ala Asn Leu Len Ser Val Glu 146 5860 Ser Ala Lys Ser Lys Phe Gly 1280 5861 Ser Ala Lys Ser Lys Phe Gly 1280 5862</td><td>5832 1150 1155 5834 tca tsg tca acg gte act agt agg gag 5835 Ser Trp Ser Thr Val Ser Ser Glu 5836 1165 1170 5838 tge tca atg tct tac tct tgg aca 5839 Cys Ser Met Ser Tyr Ser Trp Thr 5840 1180 1185 5842 gcg gaa gaa cag aaa ctg ccc atc 5843 Ala Glu Glu Glu Lys Leu Pro 1ie 5844 1200 5846 cgt cac cac aat ttg gtg tat tcc 5847 Arg His His Asn tcu Val Tyr Ser 5848 1215 5849 agg cag aag ac gac gac aca ttt gac 5851 Arg Gln Lys Lys Val Thr Phe Asp 5852 1230 1235 5854 tac cag gac gta ctc aag gag gtt 5855 Tyr Gln Asp Val Leu Lys Glu Val 5856 1245 1250 5858 gt acc ttg cta tcc gta gag gaa 5859 Ala Asn Leu Leu Ser Val Glu Glu 5860 2ca gc aaa tcc aag ttt gdt tat 5861 1245 1280 5862 5er Ala Lys Ser Lys Phe Gly Tyr</td><td>5832 1150 1155 5834 tca tsg tca acg gtc acgt acg gag gcc 5835 Ser Trp Ser Thr Val Ser Ser Gu Ala 5836 1165 1170 5838 tgc tca atg tct tac tct tgg aca ggc 392 5840 1180 1185 5842 gcg gaa gaa caa act ccc atc aat 5844 5844 1180 1185 5844 1200 11e Asn 5844 1215 1200 5846 ogt cac cac att try 11e Asn 5847 Arg His His Asn Leu Val Tyr Ser Thr 5850 agg cag at gaa ag tca attt gac ag ag 5851 Arg Gln Lys Lys Val Thr Phe Asp Asp Arg 5852 1230 1235 5853 Tyr Gln Asp Val Leu Lys Glu Val Lys Glu Val Lys 5856 1245 1250 5867<td>5832 1150 1155 5834 tea tgg tea aeg gte agt gag gee aac 5835 Ser Trp Ser Thr Val Ser Ser Glu Ala Asn 5836 1165 1170 5838 tge tea atg tet tae tet tgg aca gge gea 5839 Cys Ser Met Ser Tyr Ser Trp Thr Gly Ala 5840 1180 1185 5842 geg gaa gaa cag aaa etg eec ate aat gea 5843 Ala Glu Glu Glu Lys Leu Pro 11e Asn Ala 5844 1200 1205 5847 Arg His His Asn Leu Val Tyr Ser Thr Thr 5848 1215 1220 5847 Arg His His Asn Leu Val Tyr Ser Thr Thr 185 5848 1215 1220 5850 agg cag aag gaa gta gta tta tee ace ace 365 5851 Arg Gln Lys Lys Val Thr Phe Asp Arg Leu 1230 5852 1230 1235 5853 Tyr Gln Asp Val Leu Lys Glu Val Lys Ala 1250 5855 Tyr Gln Asp Val Leu Lys Glu Val Lys Ala 1250 5860 1260 1265 5862 tea gee aat tee ag ttt ggt tat gg gg gg 128</td><td>5832 1150 1155 5834 toa tug boa aeg gte agt agt gag gae gee aac geg gas 3835 Ser Trp Ser Thr Val Ser Ser Glu Ala Asn Ala 1170 5838 tug toa atg tet tac tet tug aca geg gee dete 5839 Cys Ser Met Ser Tyr Ser Trp Thr Gly Ala Leu 1180 5840 1180 1185 11190 5842 geg gaa gae cag aaa ctg cec atc aat gee cta 5843 Ala Glu Glu Glu Lys Leu Pro 11e Asn Ala Leu 1200 1205 5846 cgt cac cac aat tug gut tat tee acc acc tea 6847 Arg His His Asn Leu Val Tyr Ser Thr Thr Ser 5848 1215 1220 5851 Arg Gln Lys Lys Val Thr Phe Asp Arg Leu Gln 5852 1230 1235 5854 tug cag age gee gee gee ge gee gee gee gee ge</td><td>5832</td><td>5832</td><td>5832</td><td>5832</td><td>5834</td></td></td></t<>	5832 1150 5834 tca tsg tca acg gtc 5835 Ser Trp Ser Thr Val 5836 1165 5838 tgc tca atg tct tac 5840 1180 5842 gcg gaa gaa cag aaa 5843 Ala Glu Glu Glu Gln Lys 5844 1200 5845 Ala Glu Glu Glu Lys 5846 cgt cac cac aat ttg 5847 Arg His His Asn Leu 5850 agg cag aag aaa gtc 5851 Arg Glu Lys Lys Val 5852 1230 5853 Arg Glu Lys Lys Val 5854 tac cag gac gta ctc 5855 Tyr Glu Asp Val Leu 5856 1245 5857 gct aac ttg cta tcc 5858 gct aac ttg cta tcc 5859 Ala Asu Leu Leu Ser 5860 1245 5861 1245 5862 gct aac ttg cta tcc 5863 Ser Lys 5864 Lys Ser Lys 5865 gct aga agg gce gta </td <td>5832 1150 5834 tca tqq tca acq qtc aqt 5835 Ser Trp Ser Thr Val Ser 5836 1165 5838 tgc tca atg tct tac tct 5840 1180 1185 5842 gcg gaa gaa cag aaa ctg aaa ctg 5844 1180 1185 5842 gcg gaa gaa cag aaa ctg aaa ctg 5844 1200 1200 5846 cgt eac cac aat ttg gtg 5847 Arg His flis Asn Leu Val 5850 agg cag aga gaa gac gtc aca 5851 Arg Gln Lys Lys Val Thr 5852 1230 5854 tac cag gac gtc ctc aag 5855 Tyr Gln Asp Val Leu Lys 5856 1245 5858 gct ac ttg cta tcc gt 5860 1245 5863 Ser Ala Lys Ser Lys Phe 5863 Ser Ala Lys Ser Lys Phe 5864 1280 5865 gc aga agg gc gta acc 5866 1225 5877 Glu Asp Asn Val Thr</td> <td>5832 1150 5834 tea teg tea aeg gte agt agt 5835 Ser Trp Ser Thr Val Ser Ser 5836 1165 1170 5838 teg tea atg tot tac tet teg 5839 Cys Ser Met Ser Tyr Ser Trp 5840 1180 1185 5843 Cys Ser Met Ser Tyr Ser Trp 5840 1180 1185 5844 Old Glu Glu Lys Leu Pro 1200 1200 5844 Ala Glu Glu Glu Glu Lys Leu Pro 1200 1200 5846 Ogt eac cac aat ttg gtg tat 5843 Arg His His Asn Leu Val Tyr 5843 5847 Arg His His Asn Leu Val Tyr 5843 1215 5850 agg cag aag aaa gtc aca ttt 5851 Arg Gln Lys Lys Val Thr Phe 5852 5851 Arg Gln Lys Lys Val Thr Phe 5852 1230 5854 tac cag gac gta ctc aag gag 36 5855 Tyr Gln Asp Val Leu Lys Glu 1250 5866 1245 1250 5867 Ala Asn Leu Len Ser Val Glu 146 5868 gct aca ttg cta tcc ga 326 5869 Ala Asn Leu Len Ser Val Glu 146 5860 Ser Ala Lys Ser Lys Phe Gly 1280 5861 Ser Ala Lys Ser Lys Phe Gly 1280 5862</td> <td>5832 1150 1155 5834 tca tsg tca acg gte act agt agg gag 5835 Ser Trp Ser Thr Val Ser Ser Glu 5836 1165 1170 5838 tge tca atg tct tac tct tgg aca 5839 Cys Ser Met Ser Tyr Ser Trp Thr 5840 1180 1185 5842 gcg gaa gaa cag aaa ctg ccc atc 5843 Ala Glu Glu Glu Lys Leu Pro 1ie 5844 1200 5846 cgt cac cac aat ttg gtg tat tcc 5847 Arg His His Asn tcu Val Tyr Ser 5848 1215 5849 agg cag aag ac gac gac aca ttt gac 5851 Arg Gln Lys Lys Val Thr Phe Asp 5852 1230 1235 5854 tac cag gac gta ctc aag gag gtt 5855 Tyr Gln Asp Val Leu Lys Glu Val 5856 1245 1250 5858 gt acc ttg cta tcc gta gag gaa 5859 Ala Asn Leu Leu Ser Val Glu Glu 5860 2ca gc aaa tcc aag ttt gdt tat 5861 1245 1280 5862 5er Ala Lys Ser Lys Phe Gly Tyr</td> <td>5832 1150 1155 5834 tca tsg tca acg gtc acgt acg gag gcc 5835 Ser Trp Ser Thr Val Ser Ser Gu Ala 5836 1165 1170 5838 tgc tca atg tct tac tct tgg aca ggc 392 5840 1180 1185 5842 gcg gaa gaa caa act ccc atc aat 5844 5844 1180 1185 5844 1200 11e Asn 5844 1215 1200 5846 ogt cac cac att try 11e Asn 5847 Arg His His Asn Leu Val Tyr Ser Thr 5850 agg cag at gaa ag tca attt gac ag ag 5851 Arg Gln Lys Lys Val Thr Phe Asp Asp Arg 5852 1230 1235 5853 Tyr Gln Asp Val Leu Lys Glu Val Lys Glu Val Lys 5856 1245 1250 5867<td>5832 1150 1155 5834 tea tgg tea aeg gte agt gag gee aac 5835 Ser Trp Ser Thr Val Ser Ser Glu Ala Asn 5836 1165 1170 5838 tge tea atg tet tae tet tgg aca gge gea 5839 Cys Ser Met Ser Tyr Ser Trp Thr Gly Ala 5840 1180 1185 5842 geg gaa gaa cag aaa etg eec ate aat gea 5843 Ala Glu Glu Glu Lys Leu Pro 11e Asn Ala 5844 1200 1205 5847 Arg His His Asn Leu Val Tyr Ser Thr Thr 5848 1215 1220 5847 Arg His His Asn Leu Val Tyr Ser Thr Thr 185 5848 1215 1220 5850 agg cag aag gaa gta gta tta tee ace ace 365 5851 Arg Gln Lys Lys Val Thr Phe Asp Arg Leu 1230 5852 1230 1235 5853 Tyr Gln Asp Val Leu Lys Glu Val Lys Ala 1250 5855 Tyr Gln Asp Val Leu Lys Glu Val Lys Ala 1250 5860 1260 1265 5862 tea gee aat tee ag ttt ggt tat gg gg gg 128</td><td>5832 1150 1155 5834 toa tug boa aeg gte agt agt gag gae gee aac geg gas 3835 Ser Trp Ser Thr Val Ser Ser Glu Ala Asn Ala 1170 5838 tug toa atg tet tac tet tug aca geg gee dete 5839 Cys Ser Met Ser Tyr Ser Trp Thr Gly Ala Leu 1180 5840 1180 1185 11190 5842 geg gaa gae cag aaa ctg cec atc aat gee cta 5843 Ala Glu Glu Glu Lys Leu Pro 11e Asn Ala Leu 1200 1205 5846 cgt cac cac aat tug gut tat tee acc acc tea 6847 Arg His His Asn Leu Val Tyr Ser Thr Thr Ser 5848 1215 1220 5851 Arg Gln Lys Lys Val Thr Phe Asp Arg Leu Gln 5852 1230 1235 5854 tug cag age gee gee gee ge gee gee gee gee ge</td><td>5832</td><td>5832</td><td>5832</td><td>5832</td><td>5834</td></td>	5832 1150 5834 tca tqq tca acq qtc aqt 5835 Ser Trp Ser Thr Val Ser 5836 1165 5838 tgc tca atg tct tac tct 5840 1180 1185 5842 gcg gaa gaa cag aaa ctg aaa ctg 5844 1180 1185 5842 gcg gaa gaa cag aaa ctg aaa ctg 5844 1200 1200 5846 cgt eac cac aat ttg gtg 5847 Arg His flis Asn Leu Val 5850 agg cag aga gaa gac gtc aca 5851 Arg Gln Lys Lys Val Thr 5852 1230 5854 tac cag gac gtc ctc aag 5855 Tyr Gln Asp Val Leu Lys 5856 1245 5858 gct ac ttg cta tcc gt 5860 1245 5863 Ser Ala Lys Ser Lys Phe 5863 Ser Ala Lys Ser Lys Phe 5864 1280 5865 gc aga agg gc gta acc 5866 1225 5877 Glu Asp Asn Val Thr	5832 1150 5834 tea teg tea aeg gte agt agt 5835 Ser Trp Ser Thr Val Ser Ser 5836 1165 1170 5838 teg tea atg tot tac tet 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gee aat tee ag ttt ggt tat gg gg gg 128	5832 1150 1155 5834 toa tug boa aeg gte agt agt gag gae gee aac geg gas 3835 Ser Trp Ser Thr Val Ser Ser Glu Ala Asn Ala 1170 5838 tug toa atg tet tac tet tug aca geg gee dete 5839 Cys Ser Met Ser Tyr Ser Trp Thr Gly Ala Leu 1180 5840 1180 1185 11190 5842 geg gaa gae cag aaa ctg cec atc aat gee cta 5843 Ala Glu Glu Glu Lys Leu Pro 11e Asn Ala Leu 1200 1205 5846 cgt cac cac aat tug gut tat tee acc acc tea 6847 Arg His His Asn Leu Val Tyr Ser Thr Thr Ser 5848 1215 1220 5851 Arg Gln Lys Lys Val Thr Phe Asp Arg Leu Gln 5852 1230 1235 5854 tug cag age gee gee gee ge gee gee gee gee ge	5832	5832	5832	5832	5834

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5924					1520					1525	- 1		172.00		1530	11.1. 1	
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5951 5952	гĀт.			Cys	Tyr	ser			Pro	Leu	Asp			Pro	Tle	Tle	
	C a a		630 ctc	ant	000	otro		.635	1	do es o			.640				
5954 5955	caa cla	Ara	Lau	Cdi.	990	TAB	ayc .	yca vi-	DEE.	LCa	CEC	cac	agt	r.ac	LCL	cca	17655
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5958			ato	ant	7/7//			0.01	to or or	on the en		655	- 4. 4.				1 7 7 0 5
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5960	3660	Sp.4 (4	a 1, C	11011	21.8	.665	a La	ALG	CYS		arg .670	т. у S	ьец	O LY			
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PATENT APPLICATION: US/09/721,479 DATE: 12/07/2000 TIME: 07:23:34

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		and and		000 050	000 000	1830	g get. cag	1835	10051
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6128	Asp		Val	TLe	Asp	Cys		Thr	Càs	Va I	Thr		Thr	vai	Asp	Phe
6129		210					215	- 1				220			m 1 .	
6131		Leu	Asp	1, LO	Thr		rnr	He	GLU	Thr		THE	Leu	PLO	GTH	240
6132					e la	230			a1		235	0.1	3 1000	(3.) **	Lyra	
6134	Ala	Val	ser	Arg		GIN	Arg	Arg	GTA	250	unn	CTA	Arg	(4TÃ	255	PLO
6135	0.1	r 1	771	3	245	or 1	A 1 /s	District	Z* 1		A 22.5	Dec	Cox	034		Dho
6137	CIY	1.16	туг	260	Pue	Vali	ALa	PLO	265	GIU	игq	PIO	2017	270	Pre: L	FIRE
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6161		Tyr	Arg	Len	GTA		val.	GLII	Asn	GLU	395	T.H.E.	Lieu	3.114.	HIS	400
6162 6164	385	its is so	Tirro	Maxae	T 3.0	390	mlye	Oven	Mot	Cor		5 cm	LOU	clo	Val	
	V CL.I.	1 11.1	гλг	f Ä 1.	405	Met	1111	Cys	PIC.	410	Aug	мэр	110,41	(;.L11	415	V (A .L.
6165 6167	The	cor	1th r	Tro		Len	Val	Glv	alv		T.en	Ala	Ala	Lean		Ala
6168	1 111.	DG:A	LIII.	420	V 1,4 2,	L.C.C	V (3 1.	OLY.	425	Y (4.).	Lu	11.1.0	2.1.3.1.4	430	,	11.00
6170	Tyrr	Cvs	Len		Thir	G1v	Cvs	Val		Tle	Val	G1y	Arg		Val	Leu
6171	- 1		435			,		440				- 1	445			
6173	Ser	Glv		Pro	Ala	He	He	Pro	Asp	A.rq	Glu	Val	Leu	Tyr	Arg	GLu
61.74		450	-				455			-		460				
6176	phe	Asp	Glu	Met	Glu	Glu	Cys	ser	Gln	His	Leu	Pro	Туr	Tle	G1u	Gln
6177	465					470					475					480
6179	GIY	Met	Met	Leu	Ala	$\mathfrak{GL}\mathfrak{u}$	${\rm GL} n$	Phe	Lys		Lys	Ala	Leu	Gly		Leu
6180					485					490					495	
6182	Gln	Thr	Ala		Arg	Gln	Ala	Glu		He	Λla	Pro	Ala		Gin	Thr
6183				500					505					510		
6185	Asn	Trp		Lys	Leu	GLu	Thr		Trp	Ala	Lys	HIS		Trp	ASU	Fue
6.186	- 4		515	~ 1	en 9			520	0.3	T 0		76 Is -	525	Dase	01	A
6188	Lite	ser	G1.Y	1.1 e	GLI	гуг	reu	Ald	GLY	Leu	ser	rmr	ren	PLO	G.1 Y	ASII

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		- 110										= 10				
6189		530	FC 1 .	N. 11			535	7.1 -	r.l. a	ffi la sa	a 1 .s	540	15-1	Obe	Car	Dro
6191		A.I.a	J. J. C	A I. a	ser	550	MC1.	A.t.d	PHQ	1. 11 L	555	MEG	AGT	1 (11)	OC.L	560
	545	60 L	Sult	A	(3.1 m		East	F	folio:	6.000		Lou	c 1 v	23.11	Tren	
6194	Leu	THE	3.41%	261.	565	III I.	Leu	126211	Pag	570	11.0	r.c.u	G.1, y	Ci J. y	575	V CI .E
6195 6197	. 1	.) .	0.1.	Esn		a 7 ·	Tiro	21.7	21.5		the	A 1 5	Dho	Vin 1		ΑTa
	(A.L.d	Aid	Gin		Add	ALG	PIO	61 y	585	ALG	t Iti.	25 J. G	1. 116:	590	OTA	rv r. ci
6198 6200	/3.1 · ·	f	7.1.5	580	61.5	6.7 0	TIA	61.7		Mal	<i>□</i> 1 12	Tou	C 1 m		Val	1 (511
	ΩΨÂ	h.c.u	595	GLY	ALG	Aid	116	600	Ser	Vat.	(3 1. y	rac u	605	uyə	V (.1 3:	1,0,0
6201 6203	rlo	A 12 12		1 000	A 1 a	clv	Harry		7] a	Clv	Val	Alb		Δla	L/211	va l
	116	61.0	116	r.e.u	Zi,i Q	GLY	615	OTA	713.54	CITY	VUI	620	0.1.3	, , , , , ,	3245.11	,
6204 6206	A 3 5		Erre	rla	Mat	cor		c23 m	Val	Pro	Sor		Glu	Agn	Ten	Val
6207		rite	11/5	7 1.6	MC C	630	OLY	OLU	VUI	1 1.0	635	, 11.1	(3.1 G			540
6209		Low	Lon	Dren	Ala		Lau	Sar	Dro	CLV		Lon	Va!	Val	Glv	
6210	ASII	430301	i.i.c.u	1) ()	645	1 .1. \	1;((1		110	650	73.6 14	121314		,	655	
6212	Val	Care	Ala	Ala		Len	Ara	Ara	Hic		Glv	Pro	Glv	Glu		Ala
6213	4 et 1.	Cys	ALG	660	1, 3, 6;	1.C.u	nra	nrg	665	* * 4 1.	G i, y			670	J.1.	, , , , ,
6215	Val	cla	Tres		Avn	Ara	f.ou	Tla		Pho	Ala	Ser	Ara		Asn	His
6216	V (4.1	(3.1.11	675	110.1.	21.511	111.	LIC. G	680	11.2.0				685			
6218	Val	Ser		Thr	His	Έντ	val		Glu	Ser	Asp	Ala		Ala	Arq	Val
6219		690	110			- , -	695					700				
622I	Thr		He	Len	ser	ser		Thr	Val	Thr	GIn	Leu	Leu	Ara	Arq	Leu
	705	21.00			.,	71.0					715					720
6224		Gln	Tro	Tie	Ser		Glu	Cvs	Thr	Thr	Pro	Cys	ser	Glv	Ser	Trp
6225			,		725			,		730		.,			735	
6227	Leu	Ara	Asp	Tle	Trp	Asp	Trp	He	Cys	Glu	Val	Leu	Ser	Asp	Phe	Lys
6228		,		740	L				745					750		-
6230	Thr	frp	Leu	Lys	Ala	LVS	Leu	Met	Pro	Gln	Leu	Pro	GLy	He	Pro	Phe
6231			755			,		760					765			
6233	Val	Ser	Cys	Gln	Arq	Gly	Tyr	Lys	Gly	Val	Trp	Arg	Gly	Asp	Gly	He
6234		770					775					780				
6236	Met.	His	Thr	Arg	Суя	His	Cys	Gly	Ala	GLu	He	Thr	GLY	His	Val	Lys
6237	785					790					795					300
6239	Asn	Gly	Thr	Met	Arg	11e	va l	Gly	Pro	Arg	Thr	Cys	Arg	Asn	Het	Trp
6240					805					810					815	
6242	Ser	G1y	Thr	Phe	Pro	Tle	Asn	A I.a	Tyr	Thr	Thr	Gly	Pro	Cys	Thr	Pro
6243				830					825					830		
6245	Leu	Pro	Ala	Pro	Asn	Tyr	Thr	Phe	Ala	Leu	Тгр	Ar4		ser	Ala	Glu
6246			835					840					845			
6248	Glu	Tyr	Val	GLu	He	Arg		Val	Gły	Asp	Phe		Tyr	Val	Thr	$GT\lambda$
6249		850					855					860				
6251.		Thr	Thr	Asp	Asn		Lvs	Cys	Pro	Cys		Val	Pro	ser	Pro	
6252						870					875					880
6254	Phe	Phe	Thr	Glu		Asp	Gly	Val	Arg		His	Arg	Phe	Ala		Pro
6255					885					890					895	
6257	CAR	Lys	Pro		Leu	Arg	GLu	Glu		ser	Phe	Arg	va.L		ren	HIS
6258				900				_	905					910	·	xx 1
6260	Glu	Tyr		Val	GLy	ser	Gln		P.ro	Cys	Giu	Pro		Pro	Asp	V & 1.
6261			915					920					925			

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```
6263~{\rm Ala}~{\rm Val}~{\rm Leu}~{\rm Thr}~{\rm Ser}~{\rm Met}~{\rm Leu}~{\rm Thr}~{\rm Asp}~{\rm Pro}~{\rm Ser}~{\rm His}~{\rm Ile}~{\rm Thr}~{\rm Ala}~{\rm Glu}
     6264 930 935 940
     6266 Ala Ala Gly Arg Arg Leu Ala Arg Gly Ser Pro Pro Ser Val Ala Ser
     6267 945 950 955
     6269 Ser Ser Ala Ser Glin Leu Ser Ala Pro Ser Leu Lys Ala Thr Cys Thr
     6270 965 970 975
     6272 Ala Asii His Asp Ser Pro Asp Ala Glu Leu Ile Glu Ala Asii Leu 6273 980 985 990
     6275 frp Arg Gln Glu Met Gly Gly Asn Tle Thr Arg Val Glu Ser Glu Asn 6276 995 1000 1005
     6278 Lys Val Val Ile Leu Asp Ser Phe Asp Pro Leu Val Ala Glu Glu Asp 6279 ^{\circ} 1010 ^{\circ} 1015 ^{\circ} 1020
6281 Glu Arg Clu Ile Ser Val Pro Ala Glu Ile Leu Arg Lys Ser Arg Arg E--> 6282 025 1030 1035 1040
     6284 Phe Ata Gln Ala Len Pro Val Trp Ala Arq Pro Asp Tyr Asn Pro 6285 1045 1050 1055
     6287 Leu Val Glu Thr Trp Lys Lys Pro Asp Tyr Glu Pro Pro Val Val His 6288 $1060$ 1065 1070
     6290 Gly Cys Pro Leu Pro Pro Pro Lys Ser Pro Pro Val Pro Pro Pro Arg \cdot 6291 1075 1080 1085
     6293~{\rm Lys}~{\rm Lys}~{\rm Arg}~{\rm Thr}~{\rm Val}~{\rm Val}~{\rm Leu}~{\rm Thr}~{\rm Glu}~{\rm Ser}~{\rm Thr}~{\rm Leu}~{\rm Ser}~{\rm Thr}~{\rm Ala}~{\rm Leu}
     6294 1090 1095
                                          14.00
6305 GLy Glu Pro Gly Asp Pro Asp Leu Ser Asp Gly Ser Trp Ser Thr Val
6306 1155 . 1160 1165
     6308 Ser Ser Glu Ala Asn Ala Glu Asp Val Val Cys Cys Ser Met Ser Tyr
     6309 1170
                        1175
                                              1180
6311 Sex Trp Thr Gly Ala Leu Val Thr Pro Cys Ala Ala Glu Glu Glu Lys
E--> 6312 185 1190 1195 1200
6314 Leu Pro Ilc Asn Ala Leu Ser Asn Ser Leu Leu Arg His His Asn Leu
     6315 1205 1210 1215
     6317 Val Tyr Ser Thr Thr Ser Arg Ser Ala Cys Gln Arg Gln Lys Lys Val6318 1220 1225 1230
     6320 Thr Phe Asp Arg Leu Gln Val Leu Asp Ser His Tyr Gln Asp Val Leu 6321 1235 1240 1245
     6323 bys Glu Val Lys Ala Ala Ala Ser Lys Val Lys Ala Asn Leu Leu Ser
     6324 1.250 1.255 .
                                              1260
6326 Van Glu Glu Ala Cys Ser Leu Thr Pro Pro His Ser Ala Lys Ser Lys
E--> 6327 269 1270 1275 1280
     6329 Phe Gly Tyr Giy Ala Lys Asp Val Arg Cys His Ala Arg Lys Ala Val 6330 1285 1290 1295
     6332 Thr His 11e Asn Ser Val Trp Lys Asp Leu Glu Asp Asn Val Thr
6333 1300 1305 1310
     6333 1300
                                        1.305
                                                               1310
     6335 Pro Ile Asp Thr Thr Ile Met Ala Lys Asn Glu Val Phe Cys Val Gln
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	6336			L315					1320					1325			
	6338	Pro	GLu	Lys	Gly	Gly	Arg	Lys	Pro	Ala	Arg	Leu	He	Val	Phe	Pro	Asp
	6339		1330					1335					1340				
	6341	Line	Gly	Val	Arq	Val	Cys	Glu	Lys	Met	Ala	Leu	Tyr	Asp	Val	val.	Thr
E>	6342) ်		**		1350					1355					L360
	6344	LVS	Leu	Pro	Leu	Ala	Val	Met	Gly	Ser	Ser	Tyr	Gly	Phe	Gln	Tyr	ser
	6345					365			-		1370					375	
	6347	Pro	GLy	Gln	Arq	Va.L	Glu	Phe	Leu	Val	Gl.n	Ala	Trp	Lys	ser	Lys	Lys
	6348		,		L380					1385					1390		
	6350	rhr	Pro	Met	Gly	Phe	Ser	Tyr	Asp	Thr	Arg	Cys	Phe	Asp	ser	Thr	Val
	6351			1395					L4 0 0					1405			
	6353	Thr	Glu	Ser	Asp	He	Arq	Thr	Glu	Glu	Ala	He	Tyr	Gln	Cys	Cys	Asp
	6354		1410					1415					1420				
	6356	LOU	ASp	Pro	Gln	Ala	Arq	Val.	Ala	Lle	Lvs	ser	Leu	Thr	Glu	Arg	Leu
E>	6357						L430					1435					1440
	6359	775	Val	Ġly	Gly	Pro	Leu	Thr	Asn	Ser	Arg	Gly	Glu	Asn	Cys	Gly	Tyr
	6360	,			1	445				-	L450					1455	
	6362	Arg	Arg	Cys	Arg	Ala	ser	Gly	Val	Leu	Thr	Thr	ser	Cys	Gly	Asn	Thr
	6363				1460					1.465					1470		
	6365	Leu	Thr	Cys	Tyr	11e	Lys	Ala	Arg	Ala	Ala	Cys	Arg	Ala	Ala	Gly	Leu
	6366			1475				-	1480					1.485			
	6368	Gln	Asp	Cys	Thr	Met	Leu	Val.	Cys	Gly	Asp	Asp	Геп	Val	Val	$_{11e}$	Cys
	6369		1490					1495					1500)			
	6371	GAN	Ser	Ala	Gly	Va.L	G1n	Glu	Asp	Ala	Λla	Ser	Leu	Arg	Ala	Phe	Thr
E>	6372						1510					1515					L520
	6374	GLU	Ala	Met	Thr	Arg	${\rm TY} {\rm T}$	ser	Ala	Pro	Pro	Gly	Asp	Pro	Pro	Gln	Pro
	6375					.525					1,530					1535	
	6377	GLu	Tyr	Δsp	Leu	G.l.u	Leu	He	Thr	ser	Cys	Ser	ser			Ser	Val.
	6378				1540					1.545					1550		
	6380	Ala	His	Δsp	Gly	Ala	Gly	Lys	Arg	Val	Tyr	Tyr			Arg	Vab	$_{\rm Pro}$
	6381			1.555					L560					1565			
	6383	Thr	Thr	Pro	Leu	Ala	Arg	Ala	Λla	Trp	Glu	Thr			His	Thr	Pro
	6384		1570					1575					1.58				
	6386	~VXC)	Asn	Ser	Trp	Leu	Gly	Asn	$_{11e}$	11e			Ala	Pro	Thr		
E>	6387		,				1590					1595					1600
	6389	A La	Arg	Met			Met	Thr	Hi.s			ser	Val	Leu			vard
	6390					605					1610					1615	
	6392	Asp	Gln			Gln	Ala	Leu			Glu	TLe	Туг			Cys	Туг
	6393				1630					1625					1630		
	6395	ser			Pro	Leu	Asp			Pro	Hle	ITe			Leu	HIS	GTA
	6396			1635					1640					1.645			
	6398			ΔJa	Pho	Ser			Ser	Tyr	ser	Pro			He	Asn	Arg
	6399		1650					1655					166			- "	200
	6401			Ala	САЗ			Lys	Leu	Gity			Pro	Leu	Arg		
E >	6402						L670					1675	v.			_	1680
	6404	Arg	His	Arg			ser	va i	arg			Leu	Leu	ALA			013
	6405					685	21.7				1690	a	D5. rece	A 1 -		1695	at be so
	6407	Arg	Ala			Cys	GTA	Lys			FUG	ASII	Trp			Arg	LHE
	6408				1700				-	1705					1710		

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6413 Gly Trp Phe Thr Ala Gly Tyr Ser Gly Gly Asp Ile Tyr His Ser Val 6414 1730 1735 1740 6116 Sy His Ala Arg Pro Arg Trp Ile Trp Phe Cys Leu Leu Leu Ala -> 6417 745 1750 1750 1755 6419 Ala Gly Val Gly Ile Tyr Leu Leu Pro Asn Arg Met Ser Thr Asn Pro 6420 1765 1770 1775 6422 Lys Pro Gln Arg Lys Phr Lys Arg Asn Fhr Asn Arg Arg Pro Gln Asp 6423 1780 1785 17906425 Val Lys Phe Pro Gly Gly Gly Gin Lie Val Gly Gly Val Tyr Leu Leu 6426 \$1795 \$1800 \$18056428 Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala Thr Arg Lys Thr Ser 6429 1810 1815 1820 6431 Cla Arg Ser Gin Pro Arg Gly Arg Arg Gln Pro 1le Pro Lys Ala Arg
6432 825 1830 1835 1840
6434 arg Pro Glu Gly Arg Thr Trp Ala Gln Pro Gly Tyr Pro Trp Pro Leu
6435 1845 1850 1855 6437 Tyr Gly Asn Glu Gly Cys Gly Trp Ala Gly Trp Leu Leu Ser Pro Arg 6438 1860 1865 1870 6440 Gly Ser Arg Pro Ser Trp Gly Pro Thr Asp Pro Arg Arg Arg Ser Arg 6441 1875 1880 yg 40-42 6443 Asn Leu Gly Lys 6444 1890 $7432\ <210 >\ \text{SEQ}\ \text{TD}\ \text{NO}\colon\ 15$ 7433 <211> LENGTH: 1944 7434 <212> TYPE: PRT 7435 <213> ORGANISM: Artificial Sequence 7437 <220> FEATURE: 7438 <223> OTHER INFORMATION: Description of Artificial Sequence: pd.delta.NS3NS5.pj.core173 7441 <400> SEQUENCE: 15 7442 Met Ata Ala Tyr Ala Ala Gl
n Gly Tyr Lys Val Leu Val Leu As
n Pro7443-1 . $$ 5 $$. $$. $$ 10 $$.
 15 7445 Ser Val Ala Ala Thr Leu Gly Phe Gly Ala Tyr Met Ser Lys Ala His 7446 \$20\$ \$25\$ \$307448 Gly Tle Asp Pro Asn Tle Arq Thr Gly Val Arg Thr Tle Thr Thr Gly 7449 \$35\$ 40\$ 457451 Ser Pro Ile Thr Tyr Ser Phr Tyr Gly Lys Phe Leu Ala Asp Gly Gly 7452 -50 . -55 -607454 Cys Ser Gly Gly Ala Tyr Asp Ile Ile Tle Cys Asp Glu Cys His Ser 7455 -65 -70 -75 -807457 Thr Asp Ala Thr Ser Ile Leu Gly Ile Gly Thr Val Leu Asp Gln Ala 7458 85 7460 Glu Thr Ala Gly Ala Arg Leu Val Val Leu Ala Thr Ala Thr Pro Pro 7461 100105105 L10 7463 Gly Ser Val Thr Val Pro His Pro Asn ite Glu Glu Val Ala Leu Ser 7464 115 1.20 1.25 7466 Thr Thr Gly Glu fle Pro Phe Tyr Gly Lys Ala Tle Pro Leu Glu Val

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7467 130 135 7469 The Lys Cty Cty Arg His Leu Ile Phe Cys His Ser Lys Lys Cys 7470 145 150 150 155 7472 Asp Glu Leu Ala Ala Lys Leu Val Ala Leu Gly fle Asn Ala Val Ala 165 170 175 7475 Tyr Tyr Arg Gly Leu Asp Val Ser Val 11e Pro Thr Ser Gly Asp Val 7476 180 185 190 7478 Val Val Val Ala Thr Asp Ala Leu Met Thr Gly Tyr Fhr Gly Asp Phe 7479 195 200 7481 Asp Ser Val Ile Asp Cys Asn fhr Cys Val Thr Gln Thr Val Asp Phe 7482 210 215 220 7484 Ser Leu Asp Pro Thr Phe Thr 11e Glu Thr 11e Thr Leu Pro Gln Asp 7485 225 230 230 235 7487 Ala Val Ser Arg Thr Gin Arg Arg Giy Arg Thr Gly Arg Cly Lys Pro 7488 245 250 250 7490 Gly Ile Tyr Arg Phe Val Ala Pro Gly Glu Arg Pro Ser Gly Met Phe 7491 260 265 2707493 Asp Ser Ser Val Leu Cys Glu Cys Tyr Asp Ala Gly Cys Ala Trp Tyr 7494 275 280 285 7496 Glu Leu Thr Pro Ala Glu Thr Thr Val Arg Leu Arg Ala Tyr Met Asn 7497 290 295 300 7499 Thr Pro Gly Leu Pro Val Cys Gla Asp His Leu Glu Phe Trp Glu Gly 7500 305 310 315 320 7502 Val Phe Thr Gly Leu Thr His Tle Asp Ala His Phe Leu Ser Gln Thr 7503 325 330 3357505 Lys Gln Ser Gly Glu Asn Leu Pro Tyr Leu Val Ala Tyr Gln Ala Thr 7506 $$ 340 $$ 345 $$ 350 7508 Val Cys Ala Arg Ala Gin Ala Pro Pro Pro Ser Trp Asp Gin Met Trp 7509 355 360 365 7511 Lys Cys Leu Ile Arg Leu Lys Pro Thr Leu His Gly Pro Thr Pro Leu 7512 370 375 380 75.14 Leu Tyr Arg Leu Gly Ala Val Glu Ash Glu Ile Thr Leu Thr His Pro 75.15 38.5 39.0 39.5 40.07517 Val Thr Lys Tyr Ile Met Thr Cys Met Ser Ala Asp Leu Glu Val Val 7518 405 410 415 7520 Thr Ser Thr Trp Val Leu Val Gly Gly Val Leu Ata Ata Leu Ata Ata 7521 420 425 430 7523 Tyr Cys Leu Ser Thr Gly Cys Val Val Tle Val Gly Arg Val Val Leu 7524 435 440 445 7526 Ser Gly Lys Pro Ala Tle Ile Pro Asp Arg Glu Val Leu Tyr Arg Glu 7527 450 455 460 7529 Phe Asp Glu Met Glu Glu Cys Ser Gln His Leu Pro Tyr Ile Glu Gln 7530 465 470 475 486 7532 GL7 Met Met Leu Ala Glu Gln Phe Lys Gln Lys Ala Leu Gly Leu Leu 7533 485 490 490 7535 Gin Thr Ala Ser Arg Gln Ala Glu Val lle Ala Pro Ala Val Gln Thr 500 505 510 7538 Asn Trp Gln Lys Leu Glu Thr Phe Trp Ala Lys His Met Trp Asn Phe 7539 515 520 525

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	He	5er 530	e rà	LLe	GLn	Tyr	Leu 535	A.La	GTY	Leu	ser	33n.r 540	Leu	Pro	GLŸ	Asn
7542 7544	O.m.s		T.1-5	e f A	Car	Lan	-	Δla	Dha	/Bloom	A La	"	Wall	The	Car	D.e.o
7545		AY L.CI	11. 6	Aia	SET	550	PIG C	21.1 GI	E HC	1 11.4	555	MILA	V CI J.	1 11.1.	.261,	560
7547		Thr	Phr	sor	Gln		Len	Len	Pho	Asn		Len	Gly	Glv	Trn	
7548	23,0011			01.1	565			2000		570		134.00	32)	04.7	575	
7550	Ala	Δla	G1n	Leu		Ala	Pro	Glv	Ala		Thr	Ala	Phe	va.l	Glv	Ala
7551				580				-	585					590	,	
7553	Gly	Leu	Ala	Gly	Ala	Ala	11e	Gly	Ser	Val.	Gly	Leu	Gly	Lys	Val	Leu
7554			595					600					605			
7556	He	Asp	Tle	Leu	Ala	G1 y	Tyr	Gly	Ala	Gly	Val	ALa	Gly	Ala	Leu	Val
7557		610					615					620				
7559		Phe	Lys	TJ.e	Met		Gly	Glu	Val	5.to		Thr	Glu	Asp	Leu	
7560						630					635					640
7562	Asn	Leu	Leu	Pro		Tle	Leu	ser	Pro	_	Ala	Leu	Val	Val		Val
7563					645					650	0.1	-	0.1		655	
7565	Val	Cys	Ala		He	Leu	Arg	Arg		Vai	GIy	Pro	GLY		GLY	Ala
7566 7568	11 × 1	er La	Ti non	660	100	Arca	Lon	т 1 о	665	Dho	A 1 0	Cons	'A aco	670	Aan	lisi e
7569	var	GLH	675	PIEL.	ASH	ALG	LEGU	680	ELL G	rue	M.E.G	261	685	чэлу	7(8))	пть
7571	Val	Sor		The	ніе	Tivr	Val		alu	Sar	Agn	Mia		λla	Arer	Val
7572	YUI	690	(1.0)	4 1 1 3.	11 33	1 y t	695	1 17	0 1.11	00.1	1 storks	700	711.04	7 (). (3	ric g	r 1.2 .t
7574	Thr	Ala	Hle	Leu	Ser	ser		Thr	Va.l.	Thr	Gln		Leu	Arq	Arg	Leu
7575	705					710					715					720
7577	His	Gln	Trp	Lle	ser	ser	Glu	Ċув	Thr	Thr	Pro	Cys	Ser	GLy	ser	Trp
7578			-		725			-		730					735	
7580	1.01	Arg	Asp	$_{11e}$	Trp	Asp	Trp	$_{\rm Ile}$	Cys	GL u	Val	Leu	ser	Asp	Phe	Lys
7581				740					745					750		
7583	Thr	$_{\rm Ltb}$		ЬУS	Ala	Lys	Leu		Pro	Gln	Leu	Pro		116	Pro	Phe
7584			755					760					765			
7586	val		Cys	GLn	Arg	GLY		Lys	GTÄ	val	arp	_	GLY	asp	GLY	rie
7587 7589	15.54	770	m la sa	3	Cria	TI S. CO.	775	Clar	7.1	e lu	rl.	780	C1-x	II á ca	V = 3	Y
7590		HAS	THE	ALG	Cys	790	Cys	Gly	Ald	ta I, U	795	Lilf.	CITY	HIS	va.i.	800
7592		a Lv	Thr	Mat	Arci		Va 1	Glv	Pro	Δεσ		Cys	Aro	Aen	Met	
7593	71.511	OTI	1111.	III. C	805	: J. V	V C4 3.	() J. Y	120	810	2. 17.2	Cys	1013	11.711	815	1.2. %
7595	Ser	G1.v	Thr	Phe		He	Asn	Ala	Tyr		Thr	Glv	Pro	Cys		Pro
7596				820					825					830		
7598	Leu	Pro	Ala	Pro	Asn	Tyr	${\tt Th.c}$	Phe	Ala	Len	ттр	Arg	Val	ser	Ala	Glu
7599			835					840					845			
7601	Glu	Fyr	Va.l	G.l.u	Tle	Arg	$_{\rm Gl.n}$	Va1	Gly	Asp	Phe	His	Tyr	Val	Thr	Gly
7602		850					855					860				
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7605						870					875					880
7607	Phe	₽he	Thr	G.l.u		Asp	Gly	Val	Arg		His	Arg	Phe	Ala		Pro
7608	0				885				1	890	12.1.		17- 1		895	vr.4
7610	CAR	LYS	Pro		Leu	Arg	GLU	GLU		ser	Pue	ATG	val		ren	HIS
7611 7613	C1	m	Dine	900 Val	61.9	CA.	cl.	T	905	Con	c1	Dien	C10	910	Aco	Vall
1013	O.LU	r A E	t' 1, ()	V CI 1.	OTA	our	O LH	ueu	ETO	C/S	OIU	PLO	G.LU	£ 1. O	vi2D	AGT

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	7614			915					920					925			
	7616	Ala	Val	Leu	Thr	ser	Met.	Leu	Thr	Asp	Pro	Ser	His	Ile	Thr	Ala	Glu
	7617		930					935					940				
	7619	Alla	Ala	GIV	Arq	Arq	Leu	Ala	Arg	GLy	Ser	Pro	Pro	ser	val	Ala	Ser
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	7629		.,	995					1000			-		L005			
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	7632		101.0										1020				
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	7641				L060		_			.065				7	L070		
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	7647	1	1090					L095					1.1.00)			•
	7649	Ala	Glu	Leu	Alla	Thr	Arg	Ser	Phe	Gly	Ser	Ser	ser	Thr	Ser	Gly	11e
E >	7650	105)				1110				1	.115]	120
	7652	The	$G1\underline{y}$	Asp	Asn	Ihr	Thr	Thr	ser	ser	Glu	${\rm P}{\rm T}{\rm O}$	Ala	Pro	Ser	GLY	Cys
	7653					1.125					L1.30					L35	
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	7667	केल्य	Pro	He								Leu	Arg	HLS			Leu
	7668					1205					1,210	a1		a. L.		1215	. / T
	7670	Val.	Tyr			Thr	ser	Arg			Cys	GLI	Arg			Lys	var
	7671	and.	13.1		1220		01	s r 1		1225			15		1230	12 o 1	r
	7673	Thr			Arg	Leu	GLn			Asp	ser	HIS			asp	v a.r	Leu
	7674	-		235		. 1	r 7		240		217	,		1245	¥		Osin
	7676			val	ΓĀЗ	ALA			ser	Lys	уал	Lys			ren	1.20	Ser
	7677		L250		. 1			1255	22.1.	D	0.5	12.5	1260		T	/2	T
	7679	~ · •		GLU	ALa			Leu	THE	Pro			ser	ATa	LYS		
E>					<i>α</i> 1		1270		N. 1	3		.275	5 Lo	B 20.00	T ***		.280
	7682	rne	СЛУ	туг		A1.a 1285	гая	asp	val		Cys (290	HLS	HId	wra		A1a 295	V cl I.
	7683	(0.45)	ni e	77			Val	dinon	Tura			Low	che	Ann	_		Whr
	7685	CHE	H.I.S			Ser	V cl.l.	τι.b					GLU		ASH 1310	A C1 1.	ETLL.
	7686			j	1300				1	305							

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7710 425
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1445
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7728 1525 1530 1535 7730 Glu Tyr Asp Leu Glu Leu Ile Thr Ser Cys Ser Ser Asn Val Ser Val 7731 1540 1545 1550 7733 Ala His Asp Gly Ala Gly Lys Arg Val Tyr Tyr Leu Thr Arg Asp Pro 7734 1555 1560 1565 7736 Thr Thr Pro Leu Ala Arg Ala Ala Trp Glu Thr Ala Arg His Thr Pro 7737 $-1570 \,$ $1575 \,$ $1580 \,$ 7739 VAN Asn Ser Trp Leu Gly Asn Ile Lie Met Phe Ala Pro Thr Leu Trp
E--> 7740 585 1590 1595 1600
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8801 20 25 30
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      8806 Ser Pro He Thr Tyr Ser Thr Tyr Gly Lys Phe Leu Ala Asp Gly Gly 8807 - 50 - 55 - 60
      8809 Cys Ser Gly Gly Ala Tyr Asp Ile Ile Ile Cys Asp Glu Cys His Ser
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8815	Glu	Thr	Ala		Ala	y r,d	Leu	Va I.		Leu	Ala	Thr	ALa		Pro	Pro
881.6				100				,	105		a i u	c. 1	0 - 1	1.1.0	1.50	Con
3818	GIY	Ser		Thr	Va I.	Pro	HIS		ASI	1.1.6	GLU	ta.Ltt	125	ALG	T:CU	Ser
8819	,		1.15	0.3		F1		120	29.71		* 1	67.6		Loui	ē1	Mal.
8821	Thr		GLY	GLU	т. 1 е	9.0		туг	GLY	Lys	RIG	140	PIO	r.eu	G.i u	V ct.L
8822 8824		130	(7.1	C 3		er i .a	135	110	tiho	Cuc	uic		Lve	Fire	ive	Cve
		Lys	GΤĀ	GLY	Arg	150	Leu	1.1.6	PHE	CAR	155	Se.	157.5	1.7.3	1173	160
8825 8827	145	e 1	Т о	a l o	A T		T. Out	Val	Α3.¬	Lou		T] /a	Aen	ΑΊа	Va I	
	Asp	GLU	FER	ALG	1.6.5	цуБ	LCu	val	NLG	170	G.I. y	1 1. (.	21,011	111.0	175	131.00
8828 8830	1111220	(Drynt	S. en cir	Cla		A 62 D	Val.	Car	Val		Dro	Thr	Ser	GIV		Val
	TAT	ΓŅΙ	Ard	180	neu	85P	v ci.i	Ser	185	1.45	1.10	; 11.1	D (5.1.	190	r.r.c.	
8831 8833	375.1	Val	Val		inhe	Non	A T a	Laxo		The	Glv	Tyr	Thr		Aso	Phe
8834	V a .I.	val	195	ara	LILL	11.51	,,,,,,	200	(115.6	1 1112		- / -	205		1	
8836	Aen	Sor		He	Asn	CVS	Asn		CVS	val	Thr	Cln		Va.l	Asp	Phe
8837	TTD FA	210	VUL	1. 1		0,10	215					220			-	
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8843					245		-		-	250					255	
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8846				260					265					270		
8848	Asp	Ser	Ser	Val.	Leu	Cys	Glu	Cys	Tyr	Asp	Ala	Gly	Суş	Ala	Trp	Tyr
8849			275					280					285			
8851	Glu	Leu	Thr	Pro	Ala	Glu	Thr	Thr	Va L	Arg	Leu		ALa	Tyr	Met	Asn
8852		290					295					300				
8854	Thr	ero	Gly	Leu	Pro	va.i	Cys	GLn	Asp	His		G1.u	Phe	Trp	Glu	Gly
8855	305					310					315					320
8857	Val	Phe	Thr	GΤŅ		Thr	His	Tle	Asp		His	Phe	Leu	Ser		Thr
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8860	Lys	Gln	Ser		Glu	Asn	Leu	P.ro		Leu	Val	ALa	TÁL		Ald	THE
8861				340	- 1	44.7			345	D	C	3	7 (21)	350	1.5 mate	Timo
8863	Val	Cys		Arg	Ala	GIB	Ala		5 T.O	51.0	Ser	ttb	365	GIII	met.	TTF
8864 8866			355	- 1		r i	T	360	(Ti lis an	Lau	115.0	êlv		The	Dro	Can
	Lys		ren	TTE	Arg	пен	375	PTO	1.11.1	Leu	015	380	FLO	1111	ELO	e.c.u
8867 8869	T	370	A nor	Low	010	Ala		C1 n	Aen	clo.	13.45		Len	Thr	His	Pro
		JĀT	nrg	tietti	GLY	390	V CI L	(7.1.11	nan	9114	395		120.0	2.271		400
8870 8872	385	at la se	1' y res	Oure	710		ash e	Cve	Mal	Sar		Agn	Lon	Glu	Val	
8873	va I	LITT.	шую	1 y 1.	405	M.C.		c. Y.	170.0	4.1.0		, cas I	1300	03.0	415	
8875	Thr	Sor	Thr	Trn		Lon	val	Glv	GTv		Leu	Ala	Ala	Leu	Δla	λla
8876	TILL	JUL	Titi	420	· u.i.	200	· carit,	0 - 1	425				-	430		
8878	Tvr	CVS	Len		Thr	Glv	Cvs	Val.		He	va.J.	Gly	Arq	Val	Val.	Leu
8879	, , ,	.,, 5	435		1,		- ,2 0	440					445			
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8885						470					475					480
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8891				500					505					510		
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8894			515					520					525			
8896	Lle	ser	$G\pm y$	11e	Gln	Туг	Leu	Ala	Gly	Len	ser	Thr	Leu	Pro	dly.	Asn
8897		530					535					540				
8899	Pro	Ala	11e	Ala	ser	Leu	Met.	Ala	Phe	Thr	Ala	Ala	Val	Thr	ser	Pro
8900						550					555					560
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8908	Glv	Len	Ala	GIV	Ala	Ala	He	Glv	ser	Val.	GLV	Leu	G.l.y	Lys	Val.	Leu
8909	0.2	2000000	595		,			600			•		605			
8911	TIE	Agn		T.c-11	Ala	Glv	TVE	Glv	A1a	Glv	Val	Ala	Glv	Ala	Leu	Val
8912	H 31.12	610		110,01			615	0.2.7	2	e. – į		620				
8914	λla		Lare	Tip	Mot	Sar		Glu	val	Pro	Ser	Thr	Glu	ASD	Leu	Val
8915	625	1110	Lys	10.105.5	1101.	630	GL.		,	110	635		G 11			640
8917		Tom	Lou	Den	Ala		Ton	Sar	pro	CLV		Lan	Va 1	Va I	GIV	
8918	14511	Dest	rea	t 1. O	645	1 1.1.	150.0	., .,	110	650	7.132.14	DOM	1 01.4	, (3 2.	655	
8920	Va 1	Cuc	Als	8 L 5		T.OD	à ra	Ara	Hic		Glv	Pro	GLv	Glu		Ala
8921	val	Cys	MIG	660	1 1.0	L.C. u	1119	ard	665	VOLL	0.3.3	110	0.4.2	670	01,	111.0
8923	u a l	cla	Ten		Arm	7. ro	ÉGU	rla		Dhe	Λla	Ser	Ara		Agn	His
8924	V a.L	(3.1.1)	675	PICI.	23511	23.9	15634	680	21.1.0	1 110.	7 L.J. 12	() t. I.	685	0.1.7	11311	
8926	TV n l	Cor		and him	uic	(Day)	Mal		62.1 m	Sar	Aen	Δla		Ala	Ara	Va 1
	vai	690	PLO	111.1	nits	ıуı	695	E 1. O	(3.1.11	acı.	мар	700	A Lu	zi i u	rug	V (4).
8927	.1) la		11.0	r on	Car	Cox		dilian.	Vo.1	arly v	al n		Lan	Area	Arron	T All
8929	705	ALd	ше	Lett	Ser	71.0	r.eu	L III.	Val	1111	715	DC:U	пеп	ura	577 A	720
8930 8932		21 n	III sava	Tio	Con		C10	Cuc	mls e	whee		Cve	Car	clv	Sor	
	111.5	G.I.B	ттр	1, 1, 69	725	ser	G.I.u	Cys	1 11 1	730	F J. C	Cys	oc.	G.L.y	735	LLP
8933				or h			131 mars	r L a	(1,,,,		Ma I	Lou	Cor	A	,	Tura
8935	Leu	Arg	ASD	740	ттр	ASP	Trp	TIL	745	GLU	val	neu	261	750	rne	uys
8936	- I				2 1	F	1.00	11 a F		cl.	T ou	Dro	(1) v		Dro	Dho
8938	THY	ттр		Lys	Ald	Lys	ren		P1.0	GLH	t:e·u	PIO	765	1.1.63	PLO	1-116-
8939			755			<i>(</i> 11		760	73 T	171	(france)	Alace		A	210	7.10
8941	Val		Cys	GIII	arg	G.I.Y	-	ĿλR	ату	Val	TLD	780	GIY	HSP	G 1. Y	1 Les
8942		770	v. 6			***	775	61	416	e 1	7.1.5		Clrr	TI i e	37-1 I	Tue
8944		His	Thr	Arg	Cys		Cys	PTÄ	ATG	64.0	795	THE	GTĀ	11.1.5	AGI	800
8945	78.5					790		0.1			,				2 C. v. A.	
8947	Asn	GLy	Thr	Met.		LLe	val	GLŸ	170		THE	cys	Arg	ASD		Etb
8948					805	'1	_	5.9		810	or I	0.7		0	815	Trius e
8950	Ser	GŁy	Thr		pro	Lie	Asn	ALa		Thr	Thr	GLY	ero		TOX	FLO
8951				820					825	,	-			830		G1:-
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8954			835					840					845		er l	. 2. 2
8956	Glu	-	Val	GTu	Hle	Arg		Val	G.Lγ	Asp	Phe		Ty.r	val	Thr	CTA
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	3980	Ala	Asn	${\tt His}$		Se.c	Pro	Asp	Ala		Leu	Ile	Gl.u	Ala		Leu	Leu
	8981	22	3	a1	980	114	01	a2	7	985	311	·	Ma I	c2	990	<i>c</i> . 1	2
	8983 8984	пр	Arg	995	GLU	Met.	GIŸ	-	1000	116	THE	мту		1005	201	GLU	F1511
	8986	Lys	va.l.		Lle	Leu	Asp			Asp	Pro	Leu			Glu	GLu	Asp
	8987	-	1010]	.015					1020)			
	8989			Glu	11e			Pro	Ala	Glu			Arg	lys	Ser		
E>	899 ((8992		_	Cln	λla		.030 Pro	Val	@rn	Δla		.035 Pro	Asn	Tur	Agn		L040 PTO
	3993	1 110.	ALG	0.11		1045	1. 1. 57	¥ (2),	r i p		1050	1 1. ()	тор	. , .		.055	()
	8995	Leu	Val				Lys	Lys			$T^{i}yr$	Glu	Pro			Val.	His
	8996				1060					L065					1070	ъ.	
	8998	GLY		Pro 1075	Leu	Pro	PEO		Lys L080	ser	P.r.o	Pro		1085	Pro	Pro	Arg
	9001	Lys			Thr	val	val.			Glu	Ser	Thr			Thr	Ala	Leu
	9002		1090					095					1100				
-	9004			Leu	Ala		_	ser	Phe	GLY			Ser	Thr	Ser		
E>	900 6 9007	_	,	Aen	Дер		.1.10 The	Thr	Ser	Ser		.115 Pro	Ala	Pro	Ser		.120 CV8
	9008	1 11 1.	G T Ā	пар		.1.25	t rea.	1.11.6	O.C. 1.		1130	0	71,712	11.0		.135	Cyo
	9010	Pro	Pro	-		Asp	Λla	$\operatorname{GL} u$			ser	ser	Met.			Leu	Glu
	9011	0.1			1140		Б	*		1.45		<i>(</i> 2.3			1.150	mile ee	
	9013	GTÀ		155	GTA	ASP	Pro	-	њеи .160	ser	ASP	GTA		тгр 1165	ser	THE	Vd L
	9016	ser			Ala	Asn	Al.a			Va l	Va.L	Cys			Met	ser	Туг
	9017		1170					.175					1180				
E >	9019) trp	Thr	Gly			Val	Thr	Pro			Ala	G.l u	GLu		Lys 200
五>	9022		Pro	Tle	Agn		.190 Len	Ser	Asn	Ser		.195 Leu	Ara	His	His		
	9023	110.12	1. 1. 0	2,000		.205	1_(.(1	() (. L	152711		21.0	DC u	111 1	112.5		21.5	Lic. G
	9025	Val.	Tyr			Thr	ser	Arg			Cys	G.l.n	Arg			Lys	Val
	9026	mt. a:	Tr.b		220	Tr. 3	C.L.s	Va I		225	Cur	113.7	(1) ()		.230	sz-, 1	T. evu
	9028	THT		Asp 235	Arg	neu	6 LH		Leu 240	ASP	ser	HIS	-	GIN 245	Asp	val	ren
	9031	Ьуs			Lys	Ala	Δla			Lys	Va.l	Lys			Leu	Leu	Ser
					-					-							

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	9032	1	1250					1255					1260)			
	9034			GLu	Ala	Cvs			The	Pro	Pro	His	Ser	Ala	Lys	ser	LVS
E>	9035)				270					275			-		280
	9037		Gly	Tyr	Gly	Ala	LVS	Asp	Val.	Arg	Cys	His	Ala	Arg	Lys	Ala	val
	9038		-	-		285	-				1290					295	
	9040	Ph.c	His	Пе	Asn	ser	Val	frp	Lys	Asp	Leu	Leu	Glu	Asp	Asn	Val	Thr
	9041				300					1305					1310		
	9043	Pro	rle	Asp	Thr	Thr	He	Met	Ala	Lys	Asn	$\operatorname{Gl} n$	Val	Phe	Cys	val.	Gln
	9044		1	315				1	320				1	1325			
	9046	Pro	Glu	Lys	Gly	Gly.	Arg	Lys	Pro	Ala	Arg	Leu	L1e	Val	Phe	or. q	Asp
	9047		1330					1335					1340				
	9049		17	Val	Arg			Glu	Ьуs	Met			TYE	Asp	Val		
E>	9056		/				.350					1355					360
	9052	Lys	Leu	P.ro			Va.l	Met	GLY			Tyr	Gly	Phe			ser
	9053					365					1370				-	375	
	9055	Pro	GLy			Va.L	GЪц	Phe			GÆR	Ala	anb			Lys	ΓĀS
	9056	1	_		380					L385			esti		1390	Tile in	373
	9058	Thr			GLY	Phe	Ser		Asp L400	THE	Arg	Cys		ASP 1405	ser	l.H.r.	Val
	9059 9061	011		.395	N	110	A			ć:1	115	TIO			Cvc	Chro	Adm
	9062		1410	ser	ASP	тте		1111 1415	GIII	GLU	A). (I	tie	1420		Cya	Cyb	Map
	9064			Pro	Cln	A 1 a			Ala	110	Lve	Ser			Glu	Ara	Len
F >	906	/),25	110	C3 T.11		430	¥ G 1.	743.04	3		L435	131.12		V3.1. (1		440
15	9067		∕ Va1	61.7	Glv			The	Asn	Ser			G1 n	Asn	Cvs		
	9068	- / -		0.17		445	130,71				1450					455	
	9070	Arq	Arq	Cvs	Arg	Ala	Ser	GIV	val	Leu	Thr	Thr	Ser	Cys	GLy	Asn	Thr
	9071				460			-		1465					1470		
	9073	Leu	Thr	Cys	Tyr	ыe	Lys	Ala	Arq	Λla	Al.a	Cys	Arg	Ala	Λla	Gly	Leu
	9074			475					480					1485			
	9076	Gln	Asp	Cys	Thr	Иet	Leu	Val	Cys	GLy	Asp	Asp	Leu	val	Val	He	Cys
	9077		1490					1.495					1500				
	9079		\ Ser	Al.a	G1y			Glu	Asp	Ala			Leu	Arg	Ala		
E>	9080		/				510					1515					L520
	9082	GIU	Ala	Met			Tyr	ser	Aia			GTA	Asp	Pro			Pro
	9083	a 1				525		T 1 .	m la		1530	(las)	Com	A a re		535	Vers 1
	9085	G L U	Tyr		ьеи 540	GLU	Leu	TTG		ser 1545	Cys	ser	Ser.		- v а з. 1.550	SEI	V Cl I.
	9086 9088	7 T -	u i o			415	Clu	Too			(Dazes	/Perro	Γ (2) (Acr	Pro
	9089	Ald		.555	СТУ	нта	G.I. y		1560	V ci .L	r y r	1 7 1		1565	211.9	22 D F2	LLO
	9091	Thr			T.ou	Δla	Ara			Tro	GIn	Thr			His	Thr	Pro
	9092		1.570	110	inc ii	2110		1575	1 ()	1	(,, ,, ,,		1580				
	9094			Ser	frp	Leu			I Le	Ile	Met	Phe			Thr	Leu	Trp
E>	9096)				590					L595					1600
	9097	File /	Arg	Met	Tle	Leu	Met	Thr	Hi.s	Phe	Phe	ser	Val	Leu	He	Ala	Arg
	9098				1	605					1610				1	6.15	
	91.00	Asp	Gln	Leu	Glu	Gln	Ala	Leu	Asp	Cys	GLu	lle	Tyr	Gly	Ala	Cys	Tyr
	9101				620					1625					1630		
	9103	ser			Pro	Leu	Asp			Pro	Tle	I.le			Leu	His	Gly
	9104		.1	635					1640					1.645			

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Input Set : A:\seqlist.txt

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9106 Leu Ser Ala Phe Ser Leu His Ser Tyr Ser Pro Gly Glu Ile Asn Arg 9107 1650 1655 1660 9109 Val. La Ala Cys Leu Arg Lys Leu Gly Val Pro Pro Leu Arg Ala Trp E--> 9110 665 1670 1675 1680 91.12 Arg His Arg Ala Arg Ser Val Arg Ala Arg Leu Leu Ala Arg Gly Gly 9113 1685 1690 1.695 9115 Arg Ala Ala 11e Cys Gly Lys fyr Leu Phe Asn Frp Ala Val Arg Thr 9116 1700 1705 1710 9118 Lys Leu Lys Leu Thr Pro Tle Ala Ala Gly Gin Leu Asp Leu Ser 9119 1715 1720 1725 9121 Gly Trp Phe Fhr Ala Gly Tyr Ser Gly Gly Asp Ile Tyr His Ser Val 9122 1730 1735 1740 9124 Ser His Ala Arg Pro Arg Trp Ile Trp Phe Cys Leu Leu Leu Ala E--> 9125 745 1750 1750 9127 Ala Gly Val Gly 1le fyr Leu Leu Pro Asn Arg Met Ser Thr Asn Pro 9128 1765 1770 1775 9130 Lys Pro Gln Arg Lys Phr Lys Arg Asn Thr Asn Arg Arg Pro Gln Asp 9131 1780 1785 1790 9133 Val Eys Phe Pro Giy Gly Gly Gln fle Val Gly Gly Val Tyr Leu Leu 9134 1795 1800 1805 9134 1795 1800 1805
9136 Pro Arg Arg Gly Pro Arg Leu Gly Val Arg Ala Thr Arg Lys Thr Ser
9137 1810 1815 1820
9139 Glu Arg Ser Gln Pro Arg Gly Arg Arg Gln Pro Ile Pro Lys Ala Arg
E--> 914 825 1830 1835 1840
9142 arg Pro Glu Gly Arg Thr Trp Ala Gln Pro Gly Tyr Pro Trp Pro Leu
9143 1845 1850 1855 9145 Tyr Gly Asu Glu Gly Cys Gly Trp Ala Gly Trp Leu Leu Ser Pro Arg 9146 1860 1865 1870 9148 Gly Ser Arg Pro Ser Trp Gly Pro Thr Asp Pro Arg Arg Arg Ser Arg 9149 \$1875\$ \$1880\$ \$18859151 Asn Leu Gly Lys Val Ile Asp Thr Leu Thr Cys Gly Phe Ala Asp Leu 9152 1890 1895 1900 9154 Men Gly Tyr Ile Pro Leu Val E--> 9155 905 1910 10139 <210> SEQ ID NO: 19 pg 50-52 10140 <211> LENGTH: 1921 10141 <212> TYPE: PRT 10142 <213> ORGANISM: Artificial Sequence 10144 <220> FEATURE: 10145 <223> OTHER INFORMATION: Description of Artificial Sequence: 10146 pd.delta.NS3NS5.pj.core150 10148 <400> SEQUENCE: 19 10149 Met Ala Ala Tyr Ala Ala Gln Gly Tyr Lys Val Leu Val Leu Asn Pro 1.0150 1 5 1.0 10152 Ser Val Ala Ala Thr Leu Gly Phe Gly Ala Tyr Met Ser Lys Ala His 10153 20 25 30 10155 Gly 11e Asp Pro Asn 11e Arg Thr Gly Val Arg Thr 11e Thr Thr Gly 10156 354045 10158 Sec Pro lie Thr Tyr Ser Thr Tyr Gly Lys Phe Leu Ala Asp Gly Gly

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10159		50					5.5					60				
10161	CVS		Glv	Gly	Ala	Tvr		Tle	Lle	He	Cvs		Glu	Cvs	His	Ser
10162	65	40 40.01		C 2		7.0					7.5					80
10164		Asp	Ala	Thr	ser	Il.e	Leu	Glv	He	Gly	Thr	Val	Leu	Asp	Gln	Ala
10165		,			85					90					95	
10167	Glin	Thr	Ala	Glv		Ara	Len	Val	va1	Leu	Ala	Thr	ALa	Thr	Pro	Pro
10168				100					105					1.10		
10170	Glv	Ser	Val	Thr	Va l	Pro	His	Рго	Asn	11e	Glu	Glu	Val	Ala	Leu	Ser
10171			115					120					125			
10173	Thr	Thr	Glv	Glu	Tle	Pro	Phe	TVI	Glv	Lys	Ala	ile	Pro	Leu	Glu	Val.
10174		130	_				135	-	-	-		140				
10176	He	Lys	Gly	Gly	Arq	His	Leu	rle	Phe	Cys	His	Ser	Lys	Tys	Lys	Cys
	145	,		- 1		150				•	155					1.60
10179	Asp	G.l.n	Leu	Ala	Ala	Lys	Leu	Va.l.	Ala	Leu	Gly	Lie	Asn	Ala	Val	Ala
10180					165					170					175	
10132	rvr	Tyr	Arq	Gly	Leu	Asp	Va L	Ser	Val.	Lle	Pro	Thr	ser	Gly	Asp	Val
10183	•		-	180					1.85					190		
10135	Val	Val	Val	Ala	The	Asp	Ala	Léu	Met	Thr	Gly	Tyr	Thr	Gly	Asp	Phe
10186			195					200					205			
10188	Asp	Ser	Val	fle	Asp	Cys	Asn	$\operatorname{Th} r$	Cys	Val	$\operatorname{Th} x$	Gln	Thr	Val	Asp	Phe
10189		210					215					220				
10191	ser	Leu	Asp	P.ro	Thr	Phe	Thr	TLe	$_{\rm G1u}$	Thr	$_{1.1e}$	Thr	Leu	Pro	GIn	Asp
10192	225					230					235					240
10194	Ala	Val	ser	Arg	Thx	Gln	Arg	Arg	Gly	Arq	Thr	GLy	Arg	Gly	Lys	$_{\mathrm{Pro}}$
10195					245					250					255	
10197	Gly	11e	Tyr	Arg	Phe	Va.L	Al.a	Pro	Gly	Glu	Arg	Pro	ser	Gly	Met.	Phe
10198				260					265					270		
10200	Asp	ser	ser	Va l	Leu	Cys	Glu		Γγr	Asp	Λla	GLy		Ala	Trp	Tyr
10201			275					280					285			
10203	GLu		Thr	Pro	Ala	G1u		Thr	Val	VLd	ren		Ala	Tyr	Het.	Asn
10204		290					295					300				
10206		Pro	GLy	Leu	Pro		Cys	Gln	Asp	His		GLu	Phe	Trp	GLu	
1.0207						310					3.1.5			_		320
10209	Val	Phe	Thr	GΤĂ		Thr	His	Tie	Asp		HIS	Phe	Leu	ser		Thr
10210	_				325			_	_	330				es 3	335	m.i
10212	Lys	GEn	ser		G Lu	ASH	Leu	Pro		Leu	Val.	ATA	тут		Ala	THE
10213				340	2.1 -	0.3	* 1 -	12	345					350		(1)
10215	Väl	Cys		Arg	ALd	GLD	Ala		Pro	Pro	ser	TIP		GIII	мес	ттр
10216	×	G	355	1.1	7	~		360	(11 kg ass	1	rr : o	· · · · ·	365 Date	attes	1) 00	1 0 11
10218	Lys	-	Leu	116	Arg	Leu	375	PLO	THE	ueu	nis		PTO	THE.	PLO	ьеп
10219		370	7	T	(3.1.7	A 1 n		(11)	7	CLEO	Tlo	380	fáu	The	паа	Dro
10221		ryr	ALG	LCU	OTÁ		v al. L	GIN	ASII	(5.1.U	395	1 11 1.	later (1	I 11 i.	HES	4.00
10222	385	9115	Eva	Tives	715	390 Mod	mke	Cun	Mot	can		A or-	T.680	ch o	Va 1	
10224	v a.t	CHE	цуѕ	FĀL.	405	ere t.	CHT.	Cys	BUL	410	Bld	ASP	дец	tr I ti	415	AGIT
10225 10227	Thr	Car	The	Trr		Lan	Va I	61v	C 1 v		T (21)	Δla	Λla	Lon		ΔΊρ
10227	1 111	oer	1111.	420	v ct.L	ucu	Y CI I	O i j	425	val	neu	TITO	er.t.ct	430	:1 T G	(3.3.GL
10230	Tive	Cve	T.OU		The	Glv	Cve	Val		Ho	Val	Cliv	Aro		Val	Len
10233	7 y t	Cys	435	J (1.	7 11 1	31.7	CYS	440	• 44	2.10.00	* U.I.	OLY	445	eut.	y 4a ,1,	
1. 0 2 . 7 . 1			.1.32					1 10					110			

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10233	Ser	Gly	Lys	Pro	Ala	Tle	$_{11e}$	pro	Asp	Arg	Glu	Val	Leu	ľyr	Arg	Glu
10234		450					455					460				
10236	Phe	Asp	G.l.u	Met	Glu	GLu	Cys	Ser	Gln	His	Leu	pro	Tyr	Lle	GLu	Gln
10237	465					470					475					480
10239	Gly	Het	Met	Lou	Ala	G1u	Gln	Phe	Lys	G1n	Lys	Ala	Leu	$G1\lambda$	Leu	Leu
10240					485					490					495	
10242	Gln	Thr	Ala	Ser	Arg	Glii	Ala	GLu	Val.	$_{\rm Lle}$	Ala	Pro	Ala	Val.	Gln.	fhr
10243				500					505					510		
10245	Asn	Trp	Gln	$\log s$	Leu	GLu	Fhr	Phe	lrp	Ala	Lys	His	Met	Trp	Asn	Phe
10246			515					520					525			
10248	11e	ser	Gly	Tle	Gln	Tyr	Leu	Λla	$G1\gamma$	Leu	Ser	Thr	Leu	0.0	GLy	Asn
10249		530					535					540				
10251	Pro	Ala	11e	Δ La	Ser	Leu	Met	Ala	Phe	Thr	Ala	Ala	Val	Thr	ser	Pro
1.0252	545					550					555					560
10254	Leu	Fhr	Thr	ser	Gln	Thr	Leu	Leu	Phe	Asn	Lle	Lou	G1y	$GL\underline{y}$	-	AaT
10255					565					570					575	
1,0257	Ala	Ala	Gln	Leu	Ala	Ala	Pro	Gly		$A.l_i$ a	Thr	Ala	Phe		Gly	Ala
10258				580					585					590		
10260	GJY	Leu		GŁy	Ala	Ala	Tle		ser	Va.l	Gly	Leu		LVS	Val.	Leu
10261			595					600					605			
10263	116		Tle	Leu	Αla	Gly		Glγ	Ala	Gly	Va.i		Gly	Ala	Leu	Val
10264		610					615					620				
10266	Alla	Phe	${\rm L}_{\overline{\mathcal{Y}}} s$	116	Met		Gly	Glu	Val.	Pro		Thr	Glu	Asp	Leu	
10267						630					635					640
10269	Asu	Leu	ren	Pro		Tle	Leu	ser	Pro		Ala	Leu	Val	Val		Val
10270					645					650					655	
10272	Va.l	Cys	A.La		Tle	Leu	Arg	Arg		Va.l	Gly	Pro	Gly		Gly	Ala
10273				660					665					670		
10275	Val	GŁn		Met.	Asn	Arg	Leu		Ala	Phe	ALa	Ser		GΤĀ	Asn	HIS
10276			675					680				- 0	685		_	
10278	Va.L		Рго	Thr	His	Tyr		Pro	GLu	ser	Asp		A.La	Ala	Arg	Val
1.0279		690					695			en l	- 2	700	_			
10281		Ala	Tie	Leu	ser		1.eu	Thr	Và I.	Tn.r		Leu	Leu	Arg	arg	
	705					710	ca. 1		er.)	mal .	715			C.1		720
10284	HIS	G.I.n	Trp	1.16		ser	GLU	Cys	Thr		Pro	Cys	ser	ωLŸ	735	T.CD
1.0285				·r 3	725		er de	w 1	**	730	11. 1					T
10287	reu	Arg	ASP		4.1.D	ASP	4.1.D	116	745	tr I, U	Val	Leu	Set.	750	PHE	rys
10288	m 1			740	. 1 -	F		No. 4		(13.0	T	T) 10.00	22.1 s.c		Dano	Dho
10290	THE	тгр	755	Lys	ALd	Liys	Leu	760	PTO	GLH	rea	PLO	765	(1.6	PEU	PHE
10291 10293	141	(1		a1	A	01.4	(1)		77.1 **	1/51	Mane.	A roice		A cro	Clu	тТо
	V al I.	770	Cys	GLH	arg	GLγ	775	Tiàs	оту	va i	1.1.17	780	G 1. y	иэы	OIL	1.1.0
10294	Mat		misse	A	Cua	uta		21.0	a 1 -	chi	110		(215)	Ric	Ma I	Lve
10296 10297	785	nas	1111.	urd	CYS	790	CYS	ury	ast at	GIU	795	1111	оту	11.1.5	y ci,l	800
10297		Clv	mh'r.	Not	7. rom		Val	C1 v	Dro	Arr		Cuc	Ara	Agn	Met	
10300	asil	отА	F, 3 F, 2	rate t	805	ic i.e	V (1.1	G I. Y	£ 1. Q	81.0	1111	C75	aug	naii	815	i i F
10300	Sar	c by	Thr	pho		Tle	Aen	Δla	Tiver		Thr	Clv.	Pro	CVS		Pro
10302	oct.	O.L.Y	£ 111.	820	FIO	110	asit	ard	825	1111	1111	OLY	11.0	830	1 (1).	V 10 K/r
10305	Lan	Dro	ΛÌa		$\Delta \otimes n$	Tivr	The	Pho		Ten	Tro	Ara	val		Ala	Gla
	126:11	CLO	er.e.a	T. T. O.	17:011	t y 1.) 11.E	rite	213.0	330 U	1 1-12	42 T A	rul			J JL 04

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	10306			835					840					845			
	10308	010	(fivere	V51	c1	110	h ra	c Lo		C Lv	Acn	Pho	Hie		Val	Thr	G) v
	10306	GLU	850 -	V EL I.	(,/ ± ()	1.1.6	zu.y	855	V 62.1.	Ciri	.1019	£ 1103	860		* * * * * * * * * * * * * * * * * * * *		2
	10311	Mod	The	(Phae	Acr	Aen	Lan		Cue	Pro	Cvs	Gln		Pro	Ser	Pro	Glu
	10312		1 11.0	£ 1£1;	4725	212711	870	129.0	0,10		- 1 -	875					880
	10314	Dho	oha	Whe	e Lo	Lon		Clv	Val	Ara	Éen		Ara	Phe	Ala	Pro	
	10315	rite	E HIC:	7111	COLU	885	ranj.	OT 7	* 4.1	2.12.5	890					895	
	10317	Cuo	Yor	Oro	1 200		Ara	c1n	Glu	Val		Phe	Ara	Val	G1v	Len	His
	10318	Cys	Lys	110	900	150.0	144.51	332.0	O 1. G	905	Ų (,).		, ,		910		
	10320	Glu	TUNE	Pro		Gly	Ser	Gln	Leu		Cvs	Glu	Pro	Glu	Pro	Asp	Val
	10321	CILII	* ; *	915		3 2 <i>y</i>		.,	920		-			925		-	
	10323	Δla	Val		Thr	Ser	Melt.	Leu		Asp	Pro	ser	HLS	Tle	Thr	Ala	Glu
	10324	2 1 2.14	930	1, 0.12				935		1			940				
	10326	Ala		GIV	Ara	Ara	Leu	λla	Arg	Glv	ser	Pro	Pro	Ser	Val	Ala	Ser
	10327				,		950			- 1		955					960
	10329	Ser	Ser	Ala	ser	Gln	Leu	Ser	λlà	Pro	ser	t.eu	Lys	Ala	Thr	Cys	Thr
	10330	D (. 1.	LANGE			965					970					975	
	10332	λla	Asn	His	Asp	Ser	Pro	ASD	Ala	Glu	Leu	He	Glu	Λla	Asn	Leu	Leu
	10333				980			1.		985					990		
	10335	Tro	Ara	Gln	Glu	Met	Gly	Gly	Asn	He	Thr	Arq	Val	Glu	ser	Glu	Asn
	10336	~ ~ 1;		995					000					1005			
	10338	Lys	Val.	Val	He	Leu	Asp	Ser	Phe	Asp	Pro	Leu	Va.l	Ala	$_{\rm GLo}$	G1n	Asp
	10339		1010					1015					1020				
	10341	Glu	Arq	G1u	rie	Ser	Val	Pro	Λla	Glu	He	Leu	Arg	Lys	Ser	Arg	Arg
E>	10342	025) "			1	030				3	L035				J	040
	1,0344	Phe	Ala	GIn	Ala	Leu	${\tt Pro}$	Val	Trp	Ala	Arg	Pro	Asp	Tyr	Asn	Pro	Pro
	10345					1045]	0.50				1	1.055	
	10347	Leu	Val	GLu	Thr	Trp	Lys	Lys	Pro	Asp	Tyr	Glu	Pro	Pro	Val	Val.	Hi.s
	10348				1.060					L()65					1070		
	10350	Gly	Cys	Pro	Leu	Pro	bxo	b.r.o	Lys	ser	Pro	Pro			Pro	Pro	Arg
	10351			L075					080					1.085			
	10353	Lys	Lys	Arg	Thr	Val			Thr	Glu	ser	Thr			Thr	Ala	Leu
	10354	-	1090					1095					1.100				
	10356		∵ Iu	Leu	Ala			ser	Phe	G17	ser	ser	ser	Thr	ser	GLy	He
E>	10357(/				1110					L115		_			1120
	10359	Thr	GŢĀ	Asp			Thr	Thr	ser			Pro	A J. a	Pro			Cys
	1.0360					L125					130					L1.35	
	10362	Pro	Рго			Asp	Ala	GLu			Ser	ser	Met			Leu	GTII
	10363				1140					L145		0.1			1150	ml	O. I
	10365	GTA			61Ā	Asp	Pro			ser	Asp	GTÅ			Ser	3:11.1	val
	10366			1155		_ ,	- 1		1160	16.1	0.1	a		1.165	LT in h	(10.33	Tives
	10368			Glu	Ala	Asn			Asp	Val	vai	Cys	CYS	ser	HCt	261	Lyn.
	10369		1170					1175	oreke en	F3 =	(3	. 1	1180		C1.0	21 n	Lean
	10371		Trp	Thr	GLY			vai	THE	Pro		1195	Ald	G.Lu	G J, U	G.LH	нув L200
E>	1037	185		- 1			1190	O	3	C			3	ns.o	Hic		
	10374	r.eu	PTO	rre			Leu	ser	ASH		Leu 1210	пец	A L U	nis		1215	ne:u
	10375 10377	3/03	Theres	Chara		1205	car	7 vo	Car			Cle	Arc	cln.			Val
		va L	LÄE		THE 1220	1111	əeE	ALG		1225	U75	O 1, B	A.y	3.111	1230	1213	4 CI.I
	10378			-	1220					. 223					. 2.,0		

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	10380 10381	Thr		Asp 1235	Arg	Leu	Gln		Leu 240	Asp	ser	His		G1n L245	Asp	Val	Leu
	10383		Glu		t.ys	Ala		Ala		Lys	Val	Lys	Al a	Asn	Leu	Leu	ser
	10384		1250					1255					1260				
F>	10386) ^{Glu}	Glu	Ala	-	Ser L270	Leu	Thr	Pro		His 1275	ser	Ala	Lys		Lys 280
ь,	10389		Glv	Tyr	G12			ASD	Val	Arq			Ala	Arg	Lvs		
	10390			x		285					1290			.,	-	1295	
	10392	Thr	His	\mathfrak{Ale}	Asn	ser	Val	Trp	Lys	Asp	Leu	Leu	G1.u	Asp	Asn	Vāl	Thr
	10393				L300					1305					L310		
	10395	Pro			Thr	The	Lle			Lys	Asn	6 Lu			Cys	Val	Gln
	10396			1.3.1.5			. 0.		1320			·		1325	/sh o	15	
	10398		G.Lu 1330	LYS	GLY	GLY		шу s 1335	Pro	Ala	Arg	Leu	1340		6.11 <i>G</i>	PIO	asp
	10399			Wal.	Ara	Val			Tyre	Mat	Ala	Len			va l	Val	Thr
E>	10401	~/ \	(ar à	Val	11.1.9		L350	CITC	د ر د	ric c		1355	1 / 1	.100	* 44 1		360
	10404		Leu	Pro	Leu			Met	Gly	ser	ser	Tyr	Gly	Phe	Gln	Tyr	ser
	10405	•				1365					1370]	L375	
	10407	$_{\rm bro}$	Gly	GLn	Arg	Val	$\mathrm{GL} u$	Phe				Ala	Trp			Lys	Lys
	10408				1380					1385					1390		
	10410	Thr			GLY	Phe	ser			Thr	Arg	Cys		ASP 1405	Ser	THE	vai
	10411	@h r		£395	A con	L l o	Abroa		C Lu	Cln	Alla	E 1 63			Cve	Cvc	Acn
	10414		G1.0 L410	Ser	nsp	.1 1.63		14.15	G.FU	Giu	ALG	J. J. 57	1420		Cys	Cys	изр
	10416			Pro	Giln	Ala			Ala	Tle	Lvs	ser			Glu	Arq	Leu
E>) '				L430					1435					440
	10419	17.0	Val.	Gly	Gly	Pro	Leu	${\tt Thr}$	Asn	Ser	Arg	Gly	G1a	Asn	Cys	$\text{G}1\gamma$	$T y \gamma$
						3.45					1450					400	
	10420					L445										L455	
	10422	Arg	Arg		Arg		ser	GLy		Leu		Thr	ser		Gly		Thr
	$\frac{10422}{10423}$		ĺ		Arg 1460	Ala			-	Leu 1465	Thr			- 1	Gly 1470	Asn	
	$\begin{array}{c} 10422 \\ 10423 \\ 10425 \end{array}$		Thr	Cys	Arg 1460	Ala		Ala	Arg	Leu 1465	Thr		Arg	A.la	Gly 1470	Asn	
	10422 10423 10425 10426	Leu	Thr	Cys 1475	Arg 1460 Tyr	Ala	Lys	Ala	Arg 480	Leu 1465 Ala	Thr Ala	Cys	Arg	A.La 1485	Gly L470 Ala	Asn Gly	Leu
	$\begin{array}{c} 10422 \\ 10423 \\ 10425 \end{array}$	Leu GLn	Thr	Cys 1475	Arg 1460 Tyr	Ala	Lys Leu	Ala	Arg 480	Leu 1465 Ala	Thr Ala	Cys	Arg	A.la 1485 Va.l	Gly L470 Ala	Asn Gly	Leu
	10422 10423 10425 10426 10428	Leu	Thr Asp L490	Cys 1475 Cys	Arg 1460 Tyr Thr	Ala Ile Met	Lys Leu	Ala Val 1495	Arg 480 Cys	Leu 1465 Ala Gly	Thr Ala Asp	Cys Asp	Arg Leu 1500	Ala 1485 Val	Gly L470 Ala Val	Asn Gly Tle	Leu Cys
E>	10422 10423 10425 10426 10428 10429 10431 10438	Leu GLn Glu 505	Thr Asp L490 Ser	Cys 1475 Cys Ala	Arg 1460 Tyr Thr Gly	Ala Tle Met Val	Lys Leu Gin (510	Ala Val 1495 Glu	Arg 480 Cys Asp	Leu 1465 Ala Gly Ala	Thr Ala Asp Ala	Cys Asp Ser 1515	Arg Leu 1500 Leu	Ala 1485 Val O Arg	Gly L470 ALa Val	Asn Gly Tle Phe	Leu Cys Thr
E>	10422 10423 10425 10426 10428 10429 10431 10434	Leu GLn Glu 505	Thr Asp L490 Ser	Cys 1475 Cys Ala	Arg 1460 Tyr Thr Gly	Ala Ile Met Val	Lys Leu Gin (510	Ala Val 1495 Glu	Arg 480 Cys Asp	Leu 1465 Ala Gly Ala	Thr Ala Asp Ala Pro	Cys Asp Ser 1515	Arg Leu 1500 Leu	Ala 1485 Val O Arg	Gly L470 Ala Val Ala Pro	Asn Gly Tle Phe Gln	Leu Cys Thr
E>	10422 10423 10425 10426 10428 10429 10431 10434 10434	Leu GLn Glu 505 GLu	Thr Asp 1490 Ser Ala	Cys 1475 Cys Ala	Arg 1460 Tyr Thr Gly Thr	Ala Ile Met Val Arg	Lys Leu Gin 1510	Ala Val 1495 Glu Ser	Arg 480 Cys Asp	Leu 1465 Ala Gly Ala Pro	Thr Ala Asp Ala Pro 1530	Cys Asp Ser 1515 Gly	Arg Leu 1500 Leu Asp	Ala 1485 Val) Arg	Gly L470 Ala Val Ala Pro	Asn Gly Tle Phe Gln L535	Cys Thr 1520 Pro
E>	10422 10423 10425 10426 10428 10429 10431 10434 10435 10437	Leu GLn Glu 505 GLu	Thr Asp 1490 Ser Ala	Cys 1475 Cys Ala Met	Arg 1460 Tyr Thr Gly Thr	Ala Ile Met Val Arg	Lys Leu Gin 1510	Ala Val 1495 Glu Ser	Arg 480 Cys Asp Ala	Leu 1465 Ala Gly Ala Pro	Thr Ala Asp Ala Pro 1530 Cys	Cys Asp Ser 1515 Gly	Arg Leu 1500 Leu Asp	Ala 1485 Val Val Arg Pro	Gly 1470 Ala Val Ala Pro Val	Asn Gly Tle Phe Gln L535	Cys Thr 1520 Pro
E>	10422 10423 10425 10426 10428 10429 10431 10431 10434 10437 10438	Leu GLn Glu 505 GLu	Asp 1490 Ser Ala	Cys 1475 Cys Ala Met	Arg 1460 Tyr Thr Gly Thr Leu	Ala Ile Met Val Arg 1525 Glu	Lys Leu Gin 1510 Tyr Leu	Ala Val 1495 Glu Ser	Arg 480 Cys Asp Ala	Leu 1465 Ala Gly Ala Pro Ser 1545	Thr Ala Asp Ala Pro 1530 Cys	Cys Asp Ser 1515 Gly Ser	Arg Leu 1500 Leu Asp	Ala 1485 Val) Arg Pro	Gly 1470 Ala Val Ala Pro Val 1550	Asn Gly Tle Phe Gln 1535 Ser	Cys Thr 1520 Pro Val
E>	10422 10423 10425 10426 10428 10429 10431 10434 10435 10437	Leu GLn Glu 505 GLu	Thr Asp 1490 Ser Ala Tyr	Cys 1475 Cys Ala Met	Arg 1460 Tyr Thr Gly Thr Leu	Ala Ile Met Val Arg 1525 Glu	Lys Leu Gin 1510 Tyr Leu Gly	Ala Val 1495 Glu Ser	Arg 480 Cys Asp Ala Thr	Leu 1465 Ala Gly Ala Pro Ser 1545	Thr Ala Asp Ala Pro 1530 Cys	Cys Asp Ser 1515 Gly Ser	Arg Leu 1500 Leu Asp Ser	Ala 1485 Val) Arg Pro	Gly 1470 Ala Val Ala Pro Val 1550	Asn Gly Tle Phe Gln 1535 Ser	Cys Thr 1520 Pro Val
E>	10422 10423 10425 10426 10428 10429 10431 10434 10434 10434 10435 10436	Leu GLn 505 GLu Glu Ala	Asp 1490 Ser Ala Tyr His	Cys 1475 Cys Ala Met Asp Asp	Arg 1460 Tyr Thr Gly Thr Leu 1540 Gly	Ala Tle Met Val Arg 1525 Glu	Lys Leu Gin L510 Tyr Leu Gly	Ala Val 1495 Glu Ser Ile Lys Ala	Arg 480 Cys Asp Ala Thr Arg 560	Leu 1465 Ala Gly Ala Pro Ser 1545 Val	Thr Ala Asp Ala Pro 1530 Cys Tyr	Cys Asp Ser 1515 Gly Ser Tyr	Arg Leu 1500 Leu Asp Ser Leu Ala	Ala 1485 Val O Arg Pro Asn Thr 1565 Arg	Gly L470 Ala Val Ala Pro Val L550 Arg	Asn Gly Tle Phe Gln 1535 Ser Asp	Leu Cys Thr 1520 Pro Val
E>	10422 10423 10425 10426 10428 10429 10431 10434 10437 10436 10440 10444 10443	Leu Gin 505 Giu Glu Ala	Asp 1490 Ser Ala Tyr His	Cys 1475 Cys Ala Met Asp Asp 1555 Pro	Arg 1460 Tyr Thr Gly Thr Leu 1540 Gly	Ala fle Met Val Arg 1525 Glu Ala	Lys Leu Gin L510 Tyr Leu Gly Arg	Ala Val 1495 Glu Ser Ile bys Ala 1575	Arg 480 Cys Asp Ala Thr Arg 560 Ala	Leu 1465 Ala Gly Ala Pro Ser 1545 Val	Thr Ala Asp Ala Pro 1530 Cys Tyr Glu	Cys Asp Ser 1515 Gly Ser Tyr	Arg Leu 1500 Leu Asp Ser Leu Ala 1580	Ala 1485 Val) Arg Pro Asn Thr 1565 Arg	Gly L470 Ala Val Ala Pro Val L550 Arg	Asn Gly Tle Phe Gln 1535 Ser Asp Thr	Leu Cys Thr 1520 Pro Val Pro
	10422 10423 10425 10426 10428 10429 10434 10434 10435 10437 10438 10440 10441 10444 10444	Glu Glu Glu Glu Ala Thr	Asp 1490 Ser Ala Tyr His Thr 1570	Cys 1475 Cys Ala Met Asp Asp 1555 Pro	Arg 1460 Tyr Thr Gly Thr Leu 1540 Gly	Ala Ile Met Val Arg 1525 Glu Ala Ala	Lys Leu Gin 1510 Tyr Leu Gly Arg	Ala Val 1495 Glu Ser Ile bys Ala 1575	Arg 480 Cys Asp Ala Thr Arg 560 Ala	Leu 1465 Ala Gly Ala Pro Ser 1545 Val	Thr Ala Asp Ala Pro 1530 Cys Tyr Glu Met	Cys Asp Ser 1515 Gly Ser Tyr Thr	Arg Leu 1500 Leu Asp Ser Leu Ala 1580	Ala 1485 Val) Arg Pro Asn Thr 1565 Arg	Gly L470 Ala Val Ala Pro Val L550 Arg	Asn Gly Tle Phe Gln 1535 Ser Asp Thr	Cys Thr 1520 Pro Val Pro Pro
	10422 10423 10425 10426 10428 10431 10434 10435 10436 10440 10441 10443 10444 10446 10447	Leu Glu 505 Glu Glu Ala Thr Val	Asp 1490 Ser Ala Tyr His Thr 1570	Cys 1475 Cys Ala Met Asp 1555 Pro	Arg 1460 Tyr Thr Gly Thr 1540 Gly Leu	Ala The Met Val Arg 1525 Glu Ala Ala Leu	Lys Leu Gin L510 Tyr Leu Gly Arg Gly L590	Ala Val 1495 Glu Ser Ile bys Ala 1575 Asn	Arg 480 Cys Asp Ala Thr Arg 560 Ala	Leu 1465 Ala Gly Ala Pro Ser 1545 Val Trp	Thr Ala Asp Ala Pro 1530 Cys Tyr Glu Met	Cys Asp Ser 1515 Gly Ser Tyr Thr Phe 1595	Arg Leu 1500 Leu Asp Ser Leu 31a 1580 Ala	Ala 1485 Val Val Pro Asn Thr 1565 Arg	Gly L470 Ala Val Ala Pro Val L550 Arg	Asn Gly Tle Phe Gln 1535 Ser Asp Thr	Leu Cys Thr 1520 Pro Val Pro Pro
	10422 10423 10425 10426 10428 10431 10434 10435 10436 10440 10441 10443 10446 10446 10446 10447	Leu Glu 505 Glu Glu Ala Thr Val	Asp 1490 Ser Ala Tyr His Thr 1570	Cys 1475 Cys Ala Met Asp 1555 Pro	Arg 1460 Tyr Thr Gly Thr 1540 Gly Leu Trp	Ala rle Met Val Arg 1525 Glu Ala Ala Leu	Lys Leu Gin L510 Tyr Leu Gly Arg Gly L590	Ala Val 1495 Glu Ser Ile bys Ala 1575 Asn	Arg 480 Cys Asp Ala Thr Arg 560 Ala	Leu 1465 Ala Gly Ala Pro Ser 1545 Val Trp	Thr Ala Asp Ala Pro 1530 Cys Tyr Glu Met Phe	Cys Asp Ser 1515 Gly Ser Tyr Thr Phe 1595	Arg Leu 1500 Leu Asp Ser Leu 31a 1580 Ala	Ala 1485 Val Val Pro Asn Thr 1565 Arg	Glyval Ala Val Ala Pro Val 1550 Arg His	Asn Gly Tle Phe Gln 1535 Ser Asp Thr Leu Ala	Leu Cys Thr 1520 Pro Val Pro Pro
	10422 10423 10425 10426 10428 10431 10434 10435 10436 10440 10441 10443 10444 10446 10447	Glu 505 Glu Ala Thr (val) 585 Ala	Asp 1490 Ser Ala Tyr His Thr 1570 Asn Arg	Cys 1475 Cys Ala Met Asp 1555 Pro Ser Met	Arg 1460 Tyr Thr Gly Thr Leu 1540 Gly Leu Trp	Ala The Met Val Trg 1525 Glu Ala Ala Leu 1605	Lys Leu Gln 1510 Fyr Leu Gly Arg Gly L590 Met	Ala Val 1495 Glu Ser Ile Lys Ala 1575 Asn	Arg 480 Cys Asp Ala Thr Arg 560 Ala Ile	Leu 1465 Ala Gly Ala Pro Ser 1545 Val Trp Ile	Thr Ala Asp Ala Pro 1530 Cys Tyr Glu Met Phe 1610	Cys Asp Ser 1515 Gly Ser Tyr Thr Phe 1595 Ser	Arg Leu 1500 Leu Asp Ser Leu 1580 Ala Val	Ala 1485 Val.) Arg Pro Asn 1565 Arg) Pro	Gly 1470 Ala Val Pro J Val 1550 Arg His Thr	Asn Gly Tle Phe Gln 1535 Ser Asp Thr Leu Ala 1615	Cys Thr 1520 Pro Val Pro Pro Pro Arg

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	10453		1620			1625			1630	
		Ser Ile	Glu Pro	Leu Asp	Leu P	ro Pro	Tle Ile	e Gln Arg	Leu His	$G1\gamma$
	10456		1635		16	40		1645		
	10458	Leu Ser	Ala Phe	Ser Leu	His S	er Tyr	Ser Pro	Gly Glu	Tle Asn	Arg
	10459	1650			1655			1660		
	10461	√al ¥la	Ala Cys	Leu Arg	Lys L	eu Gly			Arg Ala	Trp
E>	10462			1670			1675		_	680
	10464	Arg His			Val A			ı Leu Ala	Arg Gly	Gly
	10465			1685			1690		1695	
	10467	Arg Ala	Ala He	Cys Gly	Lys I		Phe Ası		Val Arg	Thr
	10468		1700			1705			1710	
	10470	Lys Leu	Lys Leu	Thr Pro			Ala Gly		Asp Leu	ser
	10471		1715			20		1725		
				Ala Gly		Ser Gly	Gly Ası	lle Tyr	His Ser	Val
	10474	1730			1735			1740		* 1
			: Ala Arg			de Trp			Leu Leu	
E>	1.0477			1750			175			760
			' Val Gly		Leu I			, Mer. Ser	Thr Asn 1775	P10
	10480			1765			1770	. 3 3		Acto
		Lys Pro			: Lys A		Thr Asi	i Arg Arg	Pro Gln 1790	ASP
	1,0483		1780			1785	0.21 (2.1)			Lou
				GIA CITA		300 310 136	val Gij	1805 - 1805	Tyr Leu	11.6544
	1.0486		1795	. Usa Ans			Apa Al:		Lys Thr	Ser
				STO WIE	1815	ary var	wid wit	1820	Ly3 Litt	001
	10489	1010	r Com Clr	Dec Are		ra Ara	Cln Pro		Lys Ala	Ara
F1 \	10491		1 SGT GTE	1830		arg mrg	183		1	840
E>	30492	Arg Pro	v dlu di			Ma Gln			Trp Pro	
	10495		/ G1.0 G1.	1845	111, 1		1850	, ,,	1.8.5.5	
	10497	05re (215	Agn Gl		: GIV 9			n Len Leu	Ser Pro	Arq
	10498		1.860			1865			1870	,
	10500	GLV Ser			Glv f		Asp Pro	o Arg Arg	Arg Ser	Arg
	10501		1875	,		380		1885	·	
	10503	Asn Leu	i GIV Livs	val lle	a Asp 1	thr Leu	Thr Cv	Gly Phe	Ala Asp	Leu
	10504				1895			1900		
				e Pro Lei	val (lly Ala	Pro Lei	i Gly Gly	Ala Ala	Arg
E>	10507		•	1910			191			920
	10509									

VERIFICATION SUMMARY

M:332 Repeated in SeqNo=19

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Input Set : A:\seqlist.txt

Output Set: N:\CRF3\12072000\I721479.raw

U:12 M:270 C: Current Application Number differs, Replaced Application Number 1:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date L:823 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ TD:2 M:332 Repeated in SeqNo=2 L:1571 M:258 W: Mandatory Feature missing, <220> FEATURE: $\pm:1571$ M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION: 4:1765 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ 1D:4 M:332 Repeated in SeqNo=4 $\text{L}:3677\ \text{M}:332\ \text{E}:\ (32)\ \text{Invalid/Missing Amino Acid Numbering, SEQ ID:9}$ M:332 Repeated in SeqNo=9 L:4964 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:11 M:332 Repeated in SeqNo=11 L:6076 M:252 E: No. of Seq. differs. <211>LENGTH:Input:20220 Found:20160 SEQ:12 L:6282 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:13 M:332 Repeated in SeqNo=13 L:7635 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ LD:15 M:332 Repeated in SeqNo=15 L:8990 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:17 M:332 Repeated in SeqNo-17 L:10342 M:332 E: (32) Invalid/Missing Amino Acid Numbering. SEQ ID:19